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Stable Field Crop Supplies Forecast for 2002/03

Supplies of most major U.S. field crops are expected to rise in 2002/03, according to USDA's first projection of production and prices for the marketing year. Bountiful production is anticipated despite similar or lower planted acres for most crops, although production gains for corn and oats are driven by large projected planted acreage increases of 4 and 16 percent, respectively. Small output changes are projected for soybeans, sorghum, barley, and rice, but wheat and cotton production is expected to show substantial declines—over 7 and 12 percent, respectively. Higher use may offset downward pressure on farm prices for some crops, as relatively low prices are expected to encourage domestic consumption and exports.

South Korea's Agricultural Policy Hampered Economic Growth

The rapid economic development of South Korea (Korea) is often considered a model for developing countries, and some of them may consider adopting the Korean pattern of policy choices. However, while Korea clearly prospered between 1975 and 1990, a new ERS study finds that Korea's agricultural trade policies hindered rather than helped the country's economic progress. The costs of Korea's agricultural protection were high and increased over time. Korea's protective policies kept resources in agriculture, and this distortion, combined with high food prices, limited growth in the manufacturing and services sectors.

Non-Trade Concerns: International Debate & U.S. Policy

Among the topics of discussion in the World Trade Organization (WTO) negotiations on agriculture, non-trade concerns

remain one of the more contentious. In WTO parlance, "non-trade concerns" include a range of issues related to agriculture but not strictly linked to traditional trade measures. Among other things, non-trade concerns include environmental protection, rural development, and food security. The crux of the debate derives from the presumption that agriculture produces desired noncommodity outputs as joint products with agricultural production, and agricultural production is necessary to obtain these noncommodity outputs. However, several U.S. policies illustrate how noncommodity benefits can be provided without agricultural protection.

Public Lands & Western Communities

Net migration into the West and changing preferences for recreation opportunities and environmental amenities are increasing demand for recreational/environmental goods and services. This, in turn, is reshaping the economic relationship between public lands and rural communities. Traditional uses of public lands in the West—such as grazing, mining, and forestry—remain key sources of rural jobs and income, but continuing demographic changes are likely to put additional pressures on policymakers regarding multiple uses for public lands.

Communications & the Internet In Rural America

Beginning with the invention of the telephone, communication and information service innovations have been introduced and disseminated throughout rural America in fits and starts. The marked decline in investment in telecommunications since the dot-com bust in the late 1990s will slow the diffusion of Internet and other new services, but the demand for these services seems to be continuing to grow. The availability of new services and their affordability will be determined by governmental policy, the economic feasibility and technical limits of new technologies, and market incentives.

Does Land Degradation Threaten Global Agricultural Productivity & Food Security?

Global food production has risen more rapidly than population in recent decades, but 800 million people remain food insecure. Soil erosion and other forms of land degradation have the potential to reduce productivity growth and increase food insecurity, particularly in areas where fragile resources are found along with poverty and poorly functioning markets. When markets function well, however, farmers have incentives to adopt appropriate conservation practices. Recent ERS research indicates that land degradation does not threaten productivity growth and food security at the global level.

Briefs

Ag Economy

World Macroeconomic Growth Positive But Slow

The world economy is now in a gradual recovery driven by U.S. and Asian growth. Despite the Japanese and German recessions, world growth is expected to be about 2 percent in 2002, up modestly from 1.4 percent in 2001. Growth in North America and parts of Asia is accelerating, with Central Europe and the former Soviet Union holding their own. Growth in Europe, Japan, and Latin America is below recent performance and likely to remain that way for the rest of the year. Given a slow world recovery, the dollar will stay strong, oil prices will moderate, and U.S. interest rates will remain low.

Energy Prices Stable

Without a rapid pickup in world and domestic manufacturing, crude oil prices should be stable. The recent surge in crude oil prices, while partly due to production cutbacks, was largely due to strong U.S. and Asian growth. However, oil prices are likely to stabilize or even drop as the usual summer increase in demand for gasoline is met by a drawdown from very high crude oil inventory levels accumulated this winter. The slow manufacturing recovery will keep world industrial fuel demand growth modest. West Texas crude oil prices in 2002 are expected to average $26 per barrel, about the same as in 2001.

U.S. natural gas prices will be lower than winter of 2000/01 levels. Wholesale natural gas prices, which reached over $9 per million British Thermal Unit (Btu) in December 2000, dropped to $2.26 per million Btu by January 2002—largely due to an unseasonably warm winter and a sharp drop in manufacturing output. Although natural gas prices have risen since January, substantial increases in natural gas prices are not expected until late 2002 or early 2003, when world industrial output returns to the 1999 peak. As a result, the average natural gas wholesale price in 2002 is forecast at about $2.85 per million Btu (based on the U.S. Energy Information Administration's commercial natural gas price forecast of April 2002), well below the $3.96 per million Btu average of 2001.

Productivity Up Sharply

The current U.S. economic recovery and recent recession may be the most remarkable since systematic tracking of business cycles began. Federal income tax cuts and increased Federal Government spending coincided with weakness in the economy and aided the overall recovery. In addition, labor productivity rose at an annualized rate of 8.6 percent in the first quarter of 2002—more than triple the trend rate since the end of World War II, and the highest quarterly productivity growth rate in 20 years. Rarely does productivity pick up so sharply in the first quarter of a recovery. However, productivity continued rising throughout 2001, despite the recession. Favorable productivity growth reduced concerns about increased general inflation in 2002, as even relatively large wage increases would not cause substantial inflationary pressure.

Farm Household Impacts Minimal

Although the economic news is generally good, the outlook for farm households remains unchanged. Stable and lower farm input costs are not expected to offset the effects of a strong dollar and limited export growth. Off-farm employment, which is largely generated by the manufacturing sector, is not expected to rebound sharply during 2002.

Increases in the price of manufactured farm inputs in the second half of 2002 should be minimal as the prices of fertilizer and farm chemicals will fall due to declining natural gas prices relative to 2001. Stabilizing fuel and electricity prices reflect stable crude oil and lower natural gas prices. As general inflation is expected to be low, increases in other nonfarm input prices should be modest.

New off-farm rural jobs are likely to be relatively scarce, as recovery in U.S. job markets historically lags recovery in the overall economy. The recovery's high recent labor productivity growth makes slow employment growth even more likely for 2002. Further, since rural employment is disproportionately concentrated in the manufacturing sector, expected slow growth in manufacturing output due to the strong dollar and modest world growth weakens rural job growth prospects. Strength in the dollar, despite small recent weakening, puts downward pressure on farm prices and farm export growth, partly offsetting benefits of lower input costs and exacerbating weakness in off-farm employment.

Indicators To Watch

Prospects for faster world growth depend on strong economic recoveries in Europe and Latin America, even as Japan stagnates. The consensus among major international forecasters is for no improvement in growth until 2003. Most forecasts show continuing strength for the dollar, with a minority expecting a weaker dollar in 2003 or 2004.

The European Union (EU) may require a lowering of short-term interest rates to boost private spending enough to stimulate a full recovery. If German manufactured exports and industrial production surge, the EU will rapidly recover without further stimulus. Latin America, suffering modestly from weakness in Argentina, needs either a surge in foreign direct investment or rapid growth in exports to move back to normal growth. AO

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Briefs

Livestock, Dairy, & Poultry

Meat Production in 2003 Essentially Unchanged

Red meat and poultry production in 2003 is forecast at about 84.5 billion pounds, about the same as this year and up 2 percent from 2001. Continuing moderate increases in broiler and pork production, helped by expectations of continuing low feed costs, will offset the expected decline in beef production caused by reduced inventories from seven continuous years of herd reduction.

Although red meat and poultry supplies are expected to be near record levels, an expected modest rebound in exports and the expanding economy in 2003 should lead to fractionally higher prices. Prices for both feeder and fed cattle are expected to post gains as supplies continue to decline.

Forage and water supplies remain tight in many cattle producing areas due to previous droughts, continuing drought in some areas, and other weather problems. As a result, beef producers continued to reduce their breeding herds in 2001 and early 2002. Thus, herd expansion likely has been delayed for at least another year (many of the heifers that might have been bred this spring and added to the herd in 2003 are already on feed.) If drought conditions persist and /or areas now receiving rain become dry later this year, heifer retention will be delayed even further.

Beef production this year will be nearly 1 percent above 2001 as a result of the combination of additional heifers on feed and heavier finished weights. If weather conditions improve, and forage supplies become more plentiful, producers may retain heifers from this year's calf crop, which could lower beef production in 2003 about 5 percent below this year.

Cattle inventories have been declining since 1996 and are now the lowest since 1960. The continuing drop in the breeding herd likely will result in the smallest calf crop since the mid-1950s. A slight decline is expected in 2003.

If adequate forage is available, expected higher cattle prices should provide the incentive for producers to retain heifers for breeding from this year's calf crop. These heifers would be bred in 2003 and calve in 2004. The retention of heifers will further reduce an already much-lower feeder cattle supply which was down 1 percent from a year earlier on April 1. Feeder cattle supplies are expected to continue to decline over the next couple of years until the cattle herd begins to expand.

Fed cattle prices in 2003 are expected to average in the mid-$70s per cwt, compared with the high-$60s this year as beef supplies (graded Choice or higher) tighten. Lower feeder cattle supplies will boost feeder cattle prices to around $90 per cwt in 2003 from the low- to mid-$80s this year. After declining about 2 percent from last year's record high, retail Choice beef prices in 2003 are expected to rise 3-5 percent as supplies tighten.

Pork production in 2003 is forecast at 19.8 billion pounds, up 1 percent from 2002. Hog slaughter is expected to be up about 1 percent while dressed weights edge up a pound. The March *Hogs and Pigs* report indicates the inventory of all hogs and pigs was up 2 percent from 2001. The number of hogs kept for breeding was up slightly, consistent with the March-May farrowing intentions, which are up 1 percent from actual farrowings a year ago. Pigs farrowed during this period

U.S. Livestock and Poultry Products—Market Outlook

Product	Year	Beginning stocks	Production	Imports	Total supply	Exports	Ending stocks	Consumption Total	Consumption Per capita	Primary market price
		Million lbs.							*Lbs.*	*$/cwt*
Beef	2002	606	26,456	3,230	30,292	2,285	425	27,583	66.8	67-70
	2003	425	25,230	3,275	28,930	2,400	350	26,180	62.9	72-79
Pork	2002	536	19,576	960	21,072	1,485	550	19,037	51.1	35-36
	2003	550	19,822	960	21,332	1,550	600	19,182	51.1	35-38
										¢/lb
Broilers	2002	712	31,840	8	32,560	5,440	725	26,395	78.5	56-58
	2003	725	32,647	12	33,384	5,850	715	26,819	79	57-61
Turkeys	2002	241	5,562	1	5,804	470	300	5,033	17.4	63-66
	2003	300	5,601	1	5,902	490	325	5,086	17.4	63-68
		Million doz.							*No.*	*¢/doz.*
Eggs*	2002	10	7,183	8	7,201	165	12	6,059	251.7	63-66
	2003	12	7,250	8	7,270	168	12	6,090	250.7	64-69

Based on May 10, 2002, *World Agricultural Supply and Demand Estimates.*
*Total consumption does not include eggs used for hatching.
See appendix tables 10 and 11 for complete definition of terms.

Economic Research Service, USDA

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will reach slaughter weight in late 2002 and early 2003.

Despite a return to profitability in early 2000 after the price collapse of 1998, the pig crop declined for three straight years. During the 1999-2001 period the structure of the hog sector continued to shift as many smaller producers exited the industry. In addition to loss of equity in 1998, the increased complexity of expanding production (including securing financing, obtaining building and waste management permits, and hiring and training staff) likely held back sector expansion. However, the pig crop for 2002 is expected to be up about 1 percent based on a 3-percent rise in the December 2001-February 2002 pig crop and a 1-percent increase in March-August farrowing intentions. The early spring slide in prices and profitability could temper future production increases.

Hog prices in 2003 are expected to average in the mid-to-upper $30s per cwt compared with the mid-$30s this year. Pork production and exports will be higher in 2003. The expected decline in beef production will more than offset the rise in poultry production, which will reduce competing meat supplies slightly.

Retail pork prices in 2003 are expected to be slightly lower than in 2002. If these prices are realized, retail pork prices would be down about 2 percent from 2001. Expected strong beef prices will help support pork prices.

Poultry output is expected to rise 2 percent in 2003 compared with a 2-3-percent increase in 2002. Broiler production is expected to rise about 3 percent in 2002 while turkey production should rise about 1 percent (the same as expected for 2002). With relatively stable and low feed costs, broiler and turkey producers continue to have relatively favorable returns. Wholesale broiler and turkey prices are expected to remain unchanged. In 2002, prices may be slightly weaker than a year ago. Retail poultry prices in 2003 are expected to rise slightly, compared with an expected 2-percent increase in 2002. The key to higher poultry prices is renewed strength in export markets.

Egg production is expected to increase about 1 percent in 2003 with greater demand for both table and hatching eggs. Wholesale egg prices are expected to rise about 2 cents per dozen in 2003, offsetting the expected decline in 2002. AO

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June

- **12** *World Agricultural Supply and Demand Estimates (8:30 a.m.)*
- **13** *Oil Crops Outlook***
  *Cotton and Wool Outlook***
  *Rice Outlook***
- **14** *Feed Outlook (9 a.m.)*
  *Wheat Outlook (9 a.m.)***
- **17** *Livestock, Dairy, and Poultry Situation and Outlook***
- **20** *Vegetables and Melons Outlook***
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Questions? Contact Andy Jerardo at 202-694-5266

Briefs

World Agriculture & Trade

Cuba's Citrus Industry: Growth & Trade Prospects

Citrus is a major commercial crop and generates significant revenues for Cuba. The fourth largest agricultural and natural resource export, fresh and processed citrus contribute about 8 percent of Cuba's agricultural export earnings. Cuba is the world's third largest grapefruit producer, after the U.S. and Israel. Production currently consists primarily of oranges and grapefruit, but a longer term potential exists for developing a Persian lime industry.

Agriculture is a key component of the Cuban economy and if trade restrictions between Cuba and the U.S. were eased, the citrus sector has the potential to generate both Cuban markets for U.S. exports and U.S. markets for Cuban exports.

Cuba's citrus is well adapted for processing (fruit content is about 48 percent juice). Over half the oranges and about 90 percent of the grapefruit are processed (primarily for juice). Most of the processed citrus products are exported. A small amount of both grapefruit and oranges are exported fresh. Shipments currently go to the former USSR and the Council for Mutual Economic Assistance (COMECON or CMEA) Eastern European countries, although some shipments have recently moved into Western Europe and Japan. Much of this latter trade has been in processed citrus products. In European markets, Cuba faces tough competition from Israel and Spain on both quality and transportation cost grounds, particularly for fresh oranges.

Development of Citrus Industry

As with many areas of Cuban agriculture, the historic development of Cuba's citrus industry can be delineated by two major events: the 1959 communist revolution, and the collapse of the centrally planned economies of Eastern Europe in 1989 and the Soviet Union in 1991 (*AO,* October 1998).

Following the 1959 communist revolution, investment in citrus increased as part of an attempt to diversify from a sugar-dominated economy and to use Cuba's natural resources more efficiently. At the same time, Cuba expanded exports to new markets in the Soviet Union and Eastern Europe, replacing the embargoed U.S. market.

The Cuban citrus industry, like the rest of the Cuban economy, faced a major downturn with the collapse of the centrally planned economies of Eastern Europe in 1989 and of the Soviet Union in 1991. Cuba lost not only its major markets and its favorable terms of barter trade for citrus products, but also imports of CMEA machinery, oil, and other agricultural inputs. With no hard currency coming from their major export markets and a lack of available foreign exchange, loss of production inputs was as devastating to Cuba's citrus industry as the loss in citrus export demand.

In the first half of the 1990s, Cuban orange production fell by over 50 percent. Grapefruit production fell by 20 percent. Cuban fresh citrus exports fell more than 90 percent.

Citrus Is One of Cuba's Top 10 Exports

	Export value
	1,000 pesos
1. Sugar, raw	458,210
2. Cigars	172,115
3. Fish & shellfish	95,267
4. Citrus juices	58,176
5. Unmanufactured ag products	27,048
6. Coffee	15,862
7. Fresh citrus	14,926
8. Rum	13,014
9. Molasses	8,079
10. Honey	4,296

1999 data.
Note: The official *peso*:dollar exchange rate is 1:1.
Source: Institute for Cuban and Cuban-American Studies, University of Miami, 2001
Economic Research Service, USDA

Structural problems in the citrus industry made Cuba's ability to respond to these shocks even more difficult. Productivity in the large state farms was low. Limited processing capacity existed and, because processing consisted primarily of fresh-market-reject fruit, juice yield and quality were low.

The late-maturing Valencia oranges, which Cuba sold in the fresh market and made up over 80 percent of Cuba's production and exports, were not competitive in Western fresh markets. Cuba's warm climate keeps their Valencia orange from having the darker external color preferred in these markets. With the U.S. market closed, Cuba was forced to turn to Western Europe's fresh markets. However, high transportation costs and lower quality caused Cuban oranges to face tough competition from fresh orange exports from Spain and Israel.

Investment & Change

To better meet demand in their new markets, as well as try to capitalize on comparative advantage, the Cuban government increased its emphasis on grapefruit and expedited the expansion of the citrus processing industry that was already underway.

In 1993 Cuba established a new form of cooperative—the Basic Unit of Cooperative Production (Unidades Basicas de Produccion Cooperativa, or UBPC)—which broke up the large state farms that controlled about 90 percent of citrus production. Land title remained with the state, but these new cooperatives had the right to use the land and to make production and resource decisions. State enterprises still provided marketing, technical assistance, production services, and agricultural inputs. However, after delivering a contracted quota to the state, producers were allowed to sell surplus production. By 1999, the UBPCs controlled almost half of the citrus production area.

In 1994, farmers' markets were established which enabled producers to sell surplus production at free-market prices. These markets now handle 25-30 percent of farm products available to Cuban consumers.

Cuba also fostered the establishment of foreign "economic associations" (joint ventures, international contracts) to allow increased foreign investment in the Cuban economy. As a result, Israel re-initiated investments in 1991 which increased productivity and product quality for a joint Cuban-Israeli production enterprise. By 1997 this joint venture produced over a third of Cuba's citrus and controlled over a fourth of citrus area.

Other investments in citrus production have come from Greece, Great Britain, Chile, and Italy. Over half of Cuba's citrus area now is covered by international economic associations. The processing industry has also benefited from both cooperative investment from these sources and improved processing equipment imported from Western Europe.

As a result of these changes and improved incentives, citrus yields and production have rebounded to 1980s levels. However, Cuba's economic problems constrain future expansion. Infrastructure remains in poor condition, investment resources and production inputs continue in short supply, foreign exchange remains limited, the trade deficit continues, and foreign debt remains high.

The citrus industry was hit by another devastating blow in November 2001 as Hurricane Michelle swept across the major citrus plantations in central Cuba. These plantations produce about half of the country's citrus. The hurricane hit as the fruit was ripening—over 80 percent of the crop was estimated to have been blown down. Not all the fruit blown down was lost, though fruit recovery and processing were further obstructed by severe flooding and road damage. Downed power lines took processing plants out of production during their peak season.

Potential Commercial Relationships

If bilateral trade between the U.S. and Cuba resumed, processed citrus products would be the most likely export opportunity for Cuba. The newer Cuban processing facilities are capable of producing the juice qualities demanded by U.S. consumers. With U.S. orange juice demand exceeding U.S. supply, Cuba might be able to compete with Brazil in the U.S. orange juice import market. With any significant increase in U.S. demand for grapefruit juice, Cuba could become a major grapefruit juice supplier.

Cuban Agriculture on the Internet:

An excellent starting point for finding out more about Cuban agriculture is the Food and Resource Economics Department and International Agricultural Trade and Development Center, University of Florida Cuban Agriculture website: www.cubanag.ifas.ufl.edu/default.htm

Cuban fresh grapefruit, particularly red seedless grapefruit, could also find a niche market in the U.S. Cuban grapefruit for the export market is harvested in late August and September. The U.S. fresh grapefruit market is supplied primarily by Florida, whose major harvest starts in late September.

It is unlikely that Cuban fresh oranges could compete in the U.S. market. California and Florida dominate the U.S. fresh orange market, and only a small amount of fresh oranges is imported during the U.S. off-season. Furthermore, the Cuban Valencia's many seeds and pale, less-desirable external appearance would find little demand in U.S. markets.

In the longer term, Cuba's best prospects for citrus exports to the U.S. would most likely be Persian limes since U.S. demand for Persian limes is growing and U.S. production is small. Historically, Persian limes were produced primarily in south Florida, but the combination of the recent citrus canker infestation and the 1992 Hurricane Andrew decimated Florida Persian lime groves. These groves are not being replaced. This leaves Mexico as the major supplier to the U.S. market. With excellent growing conditions and a competitive location advantage, Cuba could expand Persian lime production and capture a significant portion of the U.S. East Coast market. With an efficient processing industry, Cuba could likely find a U.S. market for lime juice.

On the other side of the trade coin, the U.S. might find the Cuban citrus industry a market for U.S. exports. The U.S. has a highly developed, technically advanced citrus industry, a large part of which is in Florida. Florida has similar climate, is geographically close, and has cultural ties to Cuba. The U.S. is well positioned to supply technology, citrus rootstock and other inputs, a market-economy oriented management, and capital (all of which are currently in short supply in Cuba) to the Cuban citrus industry. AO

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Want to read more?

Armando Nova González, Thomas Spreen & Carlos Jáuregui, "The Citrus Industry in Cuba 1994-1999", International Working Paper Series IW01-4, International Agricultural Trade & Development Center, Food & Resource Economics Department, University of Florida, March 2001.

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Foreign Agricultural Organization, FAOSTAT Agricultural Data database, http://www.fao.org/ag/guides/resource/data.htm

Commodity Spotlight

Photo courtesy of USDA NRCS

Stable Field Crop Supplies Forecast For 2002/03

Supplies of most of the eight major U.S. field crops (corn, soybeans, wheat, cotton, rice, sorghum, barley, and oats) are expected to rise in 2002/03, according to USDA's first projection of production and prices for the next marketing year. Bountiful production is projected despite similar or lower planted acres for most crops this year, although production gains for corn and oats are driven by large projected planted acreage increases in of 4 and 16 percent, respectively. Sorghum and barley production are expected to rise slightly in 2002/03, and the output of soybeans and rice are projected to be only marginally lower than in the current season. However, the production of wheat and cotton are expected to show substantial declines—over 7 and 12 percent, respectively. Wheat production for 2002/03 is projected at the lowest level since 1990/91. Downward pressure on the season-average farm prices of some crops may be offset by higher use, as relatively low prices are expected to encourage domestic consumption and exports.

Corn acreage in 2002 is expected to increase to 79 million acres, up from the 75.8 million acres planted in 2001, according to survey responses in USDA's March 2002 *Prospective Plantings* report. While the assumed trend yield for the coming season is below the 138.2 bushels per acre realized last year, production is still projected to jump 5 percent to 9,935 million bushels. However, total domestic supplies are anticipated to rise only slightly because lower beginning stocks are expected to partially offset higher production.

Domestic corn use in 2002/03 is expected to rise only 2 percent, with higher food, seed, and industrial (FSI) use accounting for all of the increase. Much of the change in the FSI category is due to higher expected industrial alcohol production. Feed and residual uses are anticipated down next season because of fewer cattle on feed. U.S. corn exports are expected to climb 9 percent because of less competition from foreign exporters. Analysts expect Argentina to have a smaller corn crop in 2002/03 because of the crop's relatively large use of inputs such as fertilizers, which have become more expensive as a result of the country's currency depreciation. With higher total use outweighing increased domestic supplies, the U.S. average farm price in 2002/03 is anticipated to be $1.75-$2.15 per bushel, with the midpoint averaging 5 cents per bushel higher than in 2001/02.

Planted area for field crops, excluding winter wheat, is based on USDA's *Prospective Plantings* report for 2002, released on March 28. Harvested area is based on historical averages for harvested-to-planted ratios. Yields are derived from historical trends or averages, except for winter wheat where survey results are used. With planting still underway and harvest several months away for most crops, growing conditions could alter final production levels. U.S. crop prices are influenced not only by domestic and foreign weather, but also by changing U.S. and global demand conditions.

U.S. **soybean** production in 2002/03 is expected to be marginally lower than the current season's output, declining just over 1 percent to 2,850 million bushels. This projected drop matches the expected reduction in plantings, which are pegged at 73 million acres. The shift away from soybeans was partly attributable to disappointing yields in recent years, crop rotation considerations that favor corn, and an anticipated drop in the soybean loan rate. With lower domestic supplies and continued strong demand, the season-average farm price is anticipated to strengthen, reversing a 5-year decline. The 2002/03 farm price of soybeans is expected to be $4.00-$4.90 per bushel, with the average up 20 cents from the $4.25 estimated for 2001/02.

A modest gain is projected for domestic soybean crush, reflecting growth in domestic meal use for pork and poultry production that more than offsets lower projected meal exports. USDA projects U.S. soybean exports to decline to 975 million bushels next season—down from estimated record exports of 1,020 million bushels in 2001/02—due mainly to competition from large South American soybean supplies and prospects for even larger crops there next spring. With total use declining slightly less than the anticipated drop in production, ending stocks for 2002/03 are projected to fall slightly from 2001/02 levels.

U.S. **wheat** plantings for the 2002/03 crop are expected to decline for the sixth consecutive year as producers continue to favor oilseeds in many parts of the Corn Belt and Northern Plains. Also, slightly lower yields are anticipated, dropping production next season to 1,886 million bushels, a decline of 4 percent. U.S. wheat exports will likely face intense competition in the world market in 2002/03. Wheat

U.S. Field Crops—Market Outlook

	Area				Total	Domestic		Ending	Farm
	Planted	Harvested	Yield	Production	supply	use	Exports	stocks	price
	—Mil. acres—		*Bu/acre*	*Mil. bu*					*$/bu*
Wheat									
2001/02	59.6	48.7	40.2	1,958	2,939	1,226	975	738	2.78
2002/03	59	47.1	40.1	1,886	2,729	1,235	875	619	2.50-3.10
Corn									
2001/02	75.8	68.8	138.2	9,507	11,416	7,870	1,925	1,621	1.85-1.95
2002/03	79	72	137.9	9,935	11,571	7,910	2,100	1,561	1.75-2.15
Sorghum									
2001/02	10.3	8.6	59.9	515	556	260	250	46	1.80-1.90
2002/03	9	7.7	69	533	579	275	250	54	1.60-2.00
Barley									
2001/02	5	4.3	58.2	250	379	267	28	84	2.23
2002/03	5.1	4.5	62.1	278	392	282	25	85	1.95-2.35
Oats									
2001/02	4.4	1.9	61.3	117	285	227	3	55	1.55
2002/03	5.1	2.5	61.2	155	310	247	2	61	0.90-1.30
Soybeans									
2001/02	74.1	73	39.6	2,891	3,141	1,861	1,020	260	4.25
2002/03	73	71.7	39.7	2,850	3,114	1,883	975	255	4.00-4.90
			Lbs./acre	*Mil. cwt (rough equiv.)*					*$/cwt*
Rice									
2001/02	3.34	3.31	6,429	213.0	254.5	123.1	90.0	41.4	4.15-4.25
2002/03	3.32	3.30	6,299	208.0	262.7	126.1	92.0	44.6	3.95-4.45
			Lbs./acre	*Mil. bales*					*¢/lb.*
Cotton									
2001/02	15.77	13.83	705	20.30	26.33	7.6	11.0	7.7	31.3[1]
2002/03	14.77	13.35	640	17.80	25.52	7.8	11.0	6.7	*

Based on May 10, 2002 *World Agricultural Supply and Demand Estimates.* [1]Weighted average August-April.
*USDA is prohibited from publishing cotton price projections.
Economic Research Service, USDA

exports are anticipated to decline substantially, dropping 10 percent to 875 million bushels—the lowest level in 30 years. One factor is the projected growth of global wheat production. Excellent crop prospects and potentially larger exports from the European Union and other major exporters, plus India and the former Soviet Union, could constrain U.S. wheat exports. With global wheat imports expected to decline, the U.S. share of world exports is anticipated to drop to 22 percent, compared with 25 percent in 2001/02.

The smaller projected wheat crop and the lowest beginning stocks since 1998/99 are expected to result in 2002/03 supplies that are 7 percent below a year earlier. In addition, domestic use is expected to be slightly higher due to a 1-percent increase in food use. However, bleak export prospects dampen potential price gains that may have arisen due to the anticipated lower supplies and higher domestic use. The expected price range for wheat in 2002/03 is $2.50-$3.10 per bushel, compared with an estimated $2.78 per bushel for 2001/02.

U.S. **rice** plantings are expected to be 3.32 million acres in 2002, down less than 1 percent from last season despite considerably lower prices. The first projection for the 2002/03 rice crop pegs U.S. production at 208 million cwt (rough basis), down 2 percent from the current year's record, but still the second highest on record. Forecast yield, projected by trend, is also expected to be 2 percent lower next season. Lower production of long grain rice—projected at 160 million cwt—accounts for the decline in total production. Combined medium/ short grain production is projected at 48 million cwt, up fractionally from 2001/02. Despite a smaller crop, total supplies are projected at nearly 263 million cwt, up 3 percent from 2001/02—a record number if realized. An anticipated increase in beginning stocks of over 50 percent and fractionally higher imports are expected to more than offset the smaller crop.

U.S. total rice use is projected at a record 218 million cwt, up 2 percent from a year earlier. Domestic use is forecast at a record 126 million cwt, with food and residual uses accounting for all of the increase. Exports are projected to increase 2 million cwt to 92 million, the largest since 1994/95. Competitive U.S. prices and expectations of larger global rice trade are behind the stronger export forecast. Ending stocks are anticipated at 45 million cwt, up nearly 8 percent from a year earlier. The season-average farm price is projected at $3.95-$4.45 per cwt, with the midpoint being the same as in the previous marketing year.

Cotton production is projected to plummet 12 percent to 17.8 million bales next season due to a 1-million-acre decline in anticipated plantings and yields that are expected to be more in line with trend. Acreage is expected to fall as a result of low cotton prices and relatively more attractive returns from competing crops. The yield in 2002/03 is projected to be 604 pounds per acre, substantially lower than the previous year's 705 pounds. Larger beginning stocks are expected to partially offset the lower forecasted production, with total supply pegged at 25.5 million bales—a 3-percent decline from last year. Ending stocks are projected to fall 1 million bales, lowering the stocks-to-use ratio, from 41 percent in 2001/02 to 36 percent next season.

Domestic mill use is anticipated to rebound slightly in 2002/03 as the economy recovers from the recession and inventories are restocked. U.S. exports of raw cotton next season are projected to equal the current marketing year's 11 million bales, the largest level of exports since 1926/27. The U.S. share of world trade is expected to remain high because of lower world production and increasing foreign demand, combined with continued large U.S. supplies. Foreign production is expected to fall 4.5 million bales, due primarily to low cotton prices. Much of the decline in foreign output is the result of China's anticipated double-digit percentage decline in acreage. In contrast, foreign consumption is expected to be 2 percent higher in 2002/03, with improved economic growth and competitive cotton prices stimulating demand. AO

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South Korea's Agricultural Policy Hampered Economic Growth

The rapid economic development of South Korea (Korea) is often considered a model for developing countries to follow, and some of them may consider adopting the Korean pattern of policy choices. However, while Korea clearly prospered between 1975 and 1990, a new ERS study finds that Korea's agricultural trade policies hindered, rather than helped, the country's economic progress. *Structural Change and Agricultural Protection: Costs of Korean Policy, 1975 and 1990,* examines South Korea's agricultural trade barriers, comparing their effects with those of alternative policies on the country's economy in 1975 and 1990. Results show that the costs of Korea's agricultural protection were high, and increased over time.

Korea's Rural Sector Interventions

Since the late 1960s, South Korea's government has sought, through various interventions, to keep the welfare of the rural population from falling behind that of the urban population, while not harming the rest of the modernizing economy. Many of these interventions improved the infrastructure and technology available to farming, and increased rural households' access to nonfarm jobs. Since 1975, the country's government has also transferred funds to farm households. Most of these transfers have been indirect in the form of higher prices paid by consumers—ensured by closing Korea's borders to most agricultural imports—with the rest being direct payments from tax funds. Korea's support to agriculture continues to be quite high relative to other countries. Calculations by the Organization for Economic Cooperation and Development (OECD) show that Korean support, as a proportion of its gross domestic product (GDP), is almost the highest among member countries.

In 1989, Korea was persuaded by its trade partners in the General Agreement on Tariffs and Trade to begin agricultural trade liberalization. As a result, the country's imports of many products grew during the 1990s, benefiting consumers. The farm sector absorbed price competition from imports without collapsing.

Rice remains a major exception to the trade liberalization trend. Complete protection of the domestic rice market from international competition has been the central component of Korea's agricultural support since the late 1970s. In 2000, the OECD estimated that support for the rice market price, achieved primarily through government control of imports, provided almost $8 billion in subsidies to rice farming, over $8,000 per hectare annually. In the Uruguay Round of international trade negotiations, Korea agreed to import a specified amount of rice each year. However, since rice is imported only by the government trading enterprise and is never released for general purchase, the imports do not affect domestic rice prices.

Policies Had Mixed Results

Objectives cited by Korea in formulating food and agricultural policies have been:

- enhancing farm income;
- achieving food self-sufficiency;
- conserving foreign exchange;
- limiting government spending; and
- securing price stability;
- controlling real urban wages (or inflation).

Korea has experienced a mix of successes and failures in achieving these objectives. The goal of boosting agricultural income was at least partially met after 1970. The annual income of rural households rose above that of urban households in 1974-77 and again in 1982-83, and was only slightly less than urban levels in other periods. Gains in rural household income were due in part to higher prices for agricultural products, but due even more to farm household income derived from off-farm sources (such as wages and remittances from urban relatives). The proportion of farm household income from nonfarm sources increased from 18 percent in 1975 to 43 percent in 1990 and to more than 50 percent in 2001.

Korea has explicitly targeted its policies to achieve food self-sufficiency. In practice, Korea has realized self-sufficiency only for rice. For all foods, self-sufficiency on a caloric basis fell steadily from 1970, and dipped below 50 percent in 1999.

The goal of saving foreign exchange for other uses was achieved as Korea's agricultural trade barriers reduced imports below free-trade levels.

An East Asian Miracle?

South Korea is often included with the other "Asian Tigers" (Taiwan, Hong Kong, and Singapore) as well as Japan, in an East Asian group of economies that achieved rapid growth and profound economic and social transformation since World War II. The virtues of East Asia's development policies have been widely presented. However, strong critiques of the policy regimes have recently emerged. Research by Young has demonstrated that most of the economic growth realized by the Asian Tigers resulted from growth in factor inputs such as capital accumulation. After accounting for the dramatic increase in human capital embodied in the education of the postwar generations, growth in East Asian productivity is not exceptional. Indeed, Singapore exhibits negative growth in total factor productivity. If Young and others are right, inducing households to accumulate capital by saving and educating their children can lead to economic growth, in the right circumstances. But, as global economic conditions change, the East Asian economies may no longer have sufficient vigor for further rapid growth. The Asian financial crisis of 1997 exposed the fragility of industrial finance and governance in much of Asia, adding credibility to doubts about East Asian policy choices. On the other hand, South Korea's rapid recovery from that crisis has bolstered arguments for the underlying strength of the East Asian development strategies. The controversy continues.

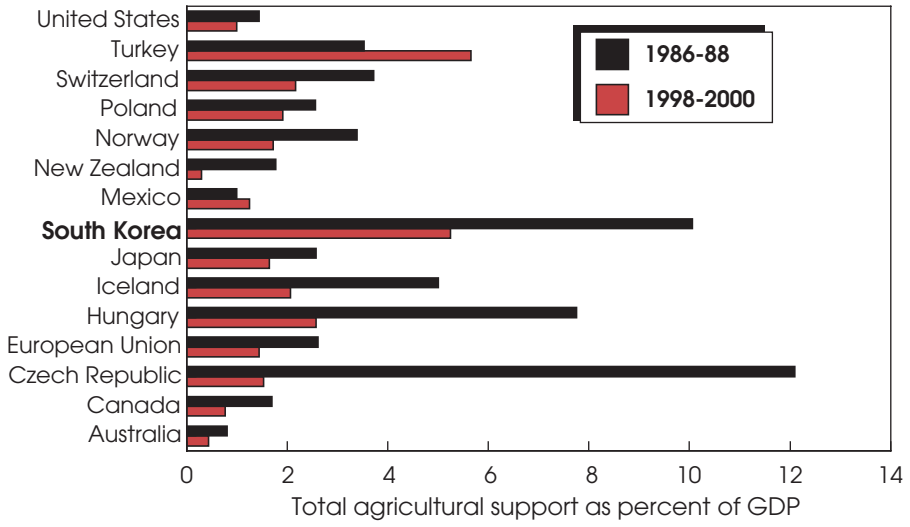
Whether or not the competitiveness of the economy as a whole benefited from farsighted government management, East Asian agriculture has not been globally competitive. Once the flow of postwar food aid ceased, protectionism characterized agricultural trade policy in much of the region, along with self-sufficiency goals for rice, the staple food. Behind the trade barriers, East Asian agriculture became less competitive with the rest of the world.

More information:

Young, Alwyn. 1992. "A Tale of Two Cities: Factor Accumulation and Technical Change in Hong Kong and Singapore," *NBER Macroeconomics Annual 1992.* pp. 13-54.

Young, Alwyn. 1995. "The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience," *Quarterly Journal of Economics.* Vol. 110, No. 3. pp. 641-80.

South Korea's Ag Support Has Dropped, But Is Still Second-Highest Among OECD Countries



GDP = Gross Domestic Product.
Based on data from OECD Monitoring Report, 2001.

Economic Research Service, USDA

Korea's efforts to boost agricultural income and domestic rice production came at the cost of higher retail prices and large budgetary outlays. The government directly purchased rice from farmers at above-market prices. Resale of the rice at less than purchase and storage costs caused large annual program deficits over the course of three decades that were covered out of tax revenues. Alternatively, the government could have chosen to reduce taxation or to spend the money in other ways to assist agriculture or the nonagricultural sectors, with potentially higher benefits.

Korean consumers paid prices for basic foodstuffs (e.g., rice or beef) that were considerably higher than prices prevailing in other countries. The effects of higher consumer prices were proportionally greater on lower income urban households than for higher income households. The higher prices tended to force real urban wages higher, reducing Korea's international competitiveness and contradicting the government's policy goal of keeping food prices low to dampen inflationary pressures.

Beyond the stated objectives, Korea's protection of agriculture kept resources in agriculture, and this distortion of resources, together with high food prices, limited growth in the manufacturing and services sectors.

Korea's agriculture experienced some structural change between 1975 and 1990, but the nature and extent of change was likely influenced by the high level of protection from world markets that Korea's policies enforced during that period. Agriculture's share of GDP fell from 29 percent to 11 percent between 1975 and 1990, but the share of primary agriculture (crop farming and livestock raising) fell proportionately less, from 8.1 to 7.4 percent. The bulk of the decline was in processed agricultural goods, which fell from 17 to 2 percent of GDP. Protecting farm outputs raised their price to processors, and appears to have diminished the capacity of Korean processing to compete, inside and outside Korea, with foods from other countries.

Agricultural Protection Reduced & Distorted Economic Growth

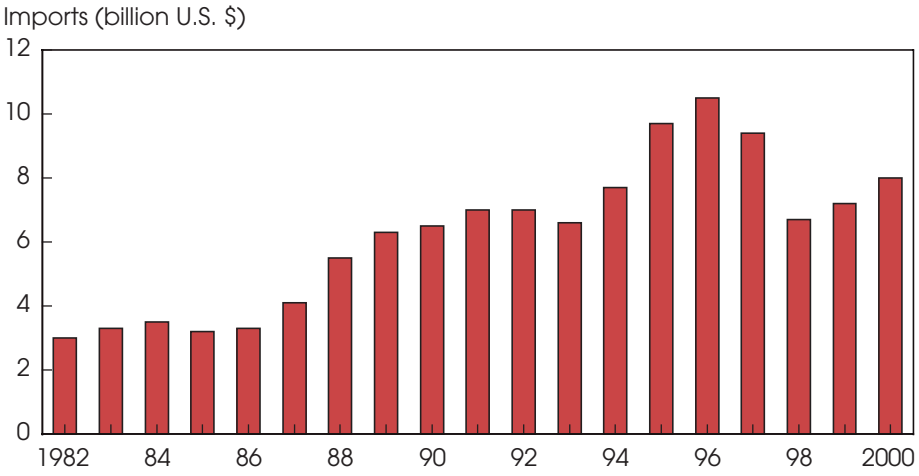
The ERS study simulated how the Korean economy might have looked if agricultural trade protection were removed. The study shows that not all agricultural and food manufacturing activities were protected equally, which distorted the composition of Korean primary agriculture. The actual output of polished (milled) rice was 10 percent higher in 1975 and 27 percent higher in 1990 than it would have been if trade were removed. In contrast, the output of vegetables and fruits was 1 percent lower in 1975 and 3-5 percent lower in 1990 than it would have been. Thus, the share for rice in the total value added by primary agriculture was significantly higher, and the share for vegetable and fruits was lower, because of the agricultural trade policies. By protecting rice and animal products, Korea's border policies drew more resources—labor and land—into producing those commodities. Less labor and land were available for vegetable and fruit farming, which had lower rates of protection in 1990.

Typically over the course of economic development, agriculture's contribution to a country's GDP becomes smaller as more investment goes to nonagricultural sectors and labor migrates out of agriculture. The agricultural share of total output becomes smaller. However, the distortions caused by agricultural trade policies in the economy as a whole can remain serious, even when the sector shrinks as a share of total output. The policies can increase the costs of food processing, textile, and other industries that use agricultural products as inputs, and also cause labor costs for nonagricultural industries to rise, as noted above. Policies can also induce capital investment and labor supply to go to agriculture when market forces would otherwise place them elsewhere.

A small share of GDP in agriculture does not necessarily imply that the cost of agricultural protection is low. The ERS study finds that Korea's GDP would have been 0.7 percent higher in 1975 without the agricultural border protection, but that lifting the protection in 1990 would have increased GDP by over 4 percent. The study also suggests that the cost of protection, in all its forms, increased with the level of Korea's economic development; and that the earlier the protections were removed, the better off Korea's economy as a whole would have been.

Korea's heavy border protection reduced imports. In both 1975 and 1990, imports provided a small or zero share of total consumption for most of the highly protected commodity sectors. For example, imports of rice and barley were effectively banned in 1990. Lifting these bans would have led to striking changes. According to ERS analyses, production of barley would have ceased, with demand fully satisfied by imports. For rice, 28 and 20 percent of domestic demand in 1975 and 1990, respectively, would have been met by imports. In the Uruguay Round, Korea agreed to allow rice imports to increase to the minimum access level of 4 percent of domestic consumption by 2004. The estimates for full liberalization indicate that Korea's rice imports would considerably exceed the 4-percent level. Also, sharp increases in imports would have occurred

South Korea's Rising Agricultural Imports Reflect Trade Liberalization



Based on official Korean trade data.

Economic Research Service, USDA

Ag Trade Liberalization in South Korea Would Have Increased Real GDP and Lowered Consumer Prices

Indicators	1975	1990
	Percentage change from actual value[1]	
Real GDP[2]	0.69	4.58
Agricultural GDP	-32.40	-44.04
Manufacturing GDP	2.18	0.15
Service GDP	0.30	0.14
Consumer price index	-1.84	-1.74
Primary agriculture	-1.97	-20.04
Processed agriculture	-6.82	-2.82
Producer price index	-5.73	-4.76
Primary agriculture	-14.40	-47.44
Processed agriculture	-27.73	-27.85
Total exports	2.70	2.38
Total imports	2.12	2.35

1. Based on model simulations of what the indicators would have been had agricultural trade liberalization taken place, compared with what actually occurred. 2. Real GDP was normalized by the consumer price index, but sector GDPs were not.

Economic Research Service, USDA

Removing Agricultural Protection in South Korea

A new ERS report on the effects of Korea's protectionist policies on its own economy compares the situation in 1975 with that in 1990. The endpoint for the analysis, 1990, marked the point at which Korea began the process of dismantling its protectionist system. Since then, its border barriers to imports have been lowered, although protection for rice is still very high.

The General Agreement on Tariffs and Trade (GATT) discouraged quantitative restrictions on trade, unless special circumstances prevailed. Korea, which for many years had balance of payments (BOP) deficits and sought to minimize imports partly to conserve foreign exchange, used language in Article 18 of the GATT that allows countries to impose quantitative restrictions if they have BOP deficits. Accordingly, Korea's government used a system of import licensing for many commodities, and then almost never issued import licenses, effectively banning imports. The same general system still prevails in a number of developing countries, also under the protection of Article 18.

Under the GATT, countries using Article 18 to justify trade barriers were subject to periodic review of their BOP situation. In 1987, a GATT committee reviewed Korea and encouraged it to give up the restrictions, because by then Korea was running BOP surpluses. In part using this finding, the U.S. successfully challenged Korea's quantitative import restrictions on beef in a GATT dispute in 1989. A subsequent review of Korea's BOP status in 1989 also confirmed that Korea didn't need the quantitative restrictions to save foreign currency, because it was running a surplus in its current account. In the face of these findings, Korea agreed in 1989 to eliminate its quantitative restrictions by 1997 (except for rice). The Uruguay Round of the GATT coincided with the phaseout of the BOP trade barriers. In 1995, Korea's commitment to the Uruguay Round Agreement subsumed the BOP concessions and, in some cases, amended them.

Within Korea, parliamentary votes, presidential statements, and street demonstrations all indicated opposition to ending the import bans. Korea was obliged to liberalize by its own need to remain part of the world trading system. Access to foreign markets for its manufactured products was vital to the Korean economy, giving Korea a commitment to free trade in general. At the insistence of its GATT partners, Korea then reluctantly began applying a free-trade policy to its own agricultural sector.

Agricultural commodities were freed from absolute quantitative limits in stages, beginning in 1989 and ending in 2001 (except for rice). Tariff-rate quotas were applied to a number of commodities. For these commodities, imports above a certain threshold faced high over-quota tariffs. In some cases, imports surged after liberalization, as was the case with bananas in 1991. Agricultural imports rose from $6.5 billion in 1990 to $10.5 billion in 1996, partly in response to the increased opportunities for trade.

for beef and pork, milk products, vegetable oils, and flour.

Should Other Countries Emulate the Korean Example?

Korea provides an important example of agricultural policymaking in the course of rapid economic development, and provides rich data for economic analysis. Korea's problems and policy alternatives are not unique and are likely to emerge repeatedly among countries that develop or modernize. Policies that raise consumer food prices burden the whole economy, not just consumers. Raising prices received by farmers retards structural adjustment in farming and distorts the farmers' choices of what crops to plant or livestock to raise. The farm sector becomes dependent on policies that isolate it from world agricultural markets.

Once farmers adjust to prices far above world levels, the potential shock of removing border protection becomes large. While the overall economic benefits of freer agricultural trade are large, the welfare effects on farmers are negative, unless other subsidies compensate them for lost income.

One scenario in the ERS study simulated the effect of agricultural trade liberalization assuming that farm labor was not able to shift to nonfarm occupations. To some extent, this situation may exist in centrally planned countries, such as North Korea and China, and in some economies where city jobs are too far away for farmers to reach. The results of the scenario showed that farm income would have been reduced by almost half, if nonfarm employment were not an option, compared to a 1-percent drop in income if farm households had the ability to accept nonagricultural jobs.

In the current Doha Round of international trade negotiations, the relationship of developing countries to the world agricultural trade system is an important issue. The economic perils of relying on self-sufficiency for food security, especially when self-sufficiency is achieved by closing borders, need to be considered. Even if self-sufficiency provides food security (there are strong arguments why it may not), the economic cost is high. Developing countries may be substantially better off by designing policies that help the rural poor compete in world agricultural markets or that provide income assistance unrelated to crop choices. AO

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Non-Trade Concerns: International Debate & U.S. Policy

Among the topics of discussion in the World Trade Organization (WTO) negotiations on agriculture, non-trade concerns remain one of the more contentious. In WTO parlance, "non-trade concerns" include a range of issues that are related to agriculture but are not strictly linked to traditional trade measures like tariffs. Non-trade concerns include environmental protection, rural development, and food security, among others.

Non-trade concerns have emerged as a trade issue as a number of factors converged. There is growing public realization that international trade and trade rules can have impacts beyond the flow of goods and services; public demand for environmental protection is putting farm production practices in the spotlight; and incidents of food-borne disease have raised public awareness of food safety. Agriculture can be closely tied to cultural identity, and some may feel that liberalizing trade threatens this identity.

The issue of non-trade concerns is closely linked to multifunctionality, the concept that agriculture (or other industries) provides a range of noncommodity outputs, or multiple functions. This concept is, on its face, noncontroversial. Most countries accept that agriculture provides services and outputs beyond food, fiber, and forestry. These outputs may include socially desirable goods (open space, wildlife habitat, biodiversity, flood prevention, pleasing rural landscapes, cultural heritage, viable rural communities, and food security) and negative environmental impacts (soil erosion, water pollution, loss of habitat, and loss of biodiversity).

These issues become contentious when they are embroiled in the larger discussion of agricultural policy reform. The WTO and its predecessor organization, the General Agreement on Tariffs and Trade or GATT, provide for general exceptions from trade provisions for measures necessary to protect human, animal, or plant life or health, or to conserve exhaustible natural resources. Countries agreed further, in Article 20 of the WTO Uruguay Round Agreement on Agriculture, to include non-trade concerns in the negotiations to continue the agricultural reform process. In the Doha Declaration that launched the new round of trade talks, WTO members confirmed their intent to discuss these concerns, but they did not agree on how to address them.

The International Debate

The debate over non-trade concerns has taken place primarily in the context of agricultural trade negotiations in the WTO. Multifunctionality and non-trade concerns become controversial when used in trade negotiations to justify exemptions from current or future commitments, or as a reason to reconsider disciplines on agricultural support and protection already established in the Uruguay Round.

The crux of the international debate is the presumption that, besides food production, agriculture creates noncommodity spillover benefits and costs. These benefits or costs are not provided or controlled by the marketplace and represent either externalities or public goods. Countries widely agree on the existence of public goods and externalities in agriculture, and most have policies to support the positive benefits and limit the negative impacts from agriculture. The crux of the debate derives from the presumption of *jointness*—that agriculture produces desired noncommodity outputs as *joint products* with agricultural production—and the conclusion that agricultural production is necessary to obtain the desired noncommodity outputs.

To varying degrees, the European Union, Norway, Japan, South Korea, and Switzerland have supported greater flexibility under WTO rules to provide for non-trade concerns. Some of these countries may feel trade liberalization poses a threat to positive noncommodity benefits that are jointly produced with food. By lowering tariff protection or tightening limits on trade-distorting domestic support, some countries are concerned that lower domestic farm prices will reduce agricultural output and its associated benefits. If these benefits were joint products of agricultural production, then lower prices that result from reducing tariffs on agricultural products would cause, for example, a loss of landscape amenities.

Countries on the other side of the debate have challenged these justifications by

Externalities & Public Goods

Economists use the term "externality" to describe harmful or beneficial side effects that occur in the production, consumption, or distribution of a particular good. Production of an agricultural good may generate an environmental externality, such as wastes or amenities, as a byproduct. These are externalities if they affect the well-being of others in a way that is not transmitted by market prices; i.e., the producer does not bear the costs of the waste cleanup or receive compensation for the benefits of the amenity provided.

Externalities often arise when there is no market for a product. This can occur when there are ill-defined or poorly enforced property rights (for example, when resources such as ground and surface water or air over a city are owned by the community or by no one). Externalities also occur when those affected are widely dispersed and difficult to identify. The cost to the community of water pollution or air pollution is not reflected in the market.

Public goods are goods (or, more commonly, services) for which markets do not work well because of certain characteristics of the goods or services. Typical of public goods is that consumption by one individual does not reduce the amount available for others. This particular characteristic means there is no incentive for consumers to pay for a service. No incentive to pay means no private firm would be willing to supply the service. In such cases, governments provide the service and collect taxes to cover the cost. National defense is an example of a public good.

Both externalities and public goods can provide an economic rationale for government intervention.

Source: Krissoff, B., et al., *Exploring Linkages Among Agriculture, Trade, and the Environment*, Agricultural Economic Report No. 738, May 1996. www.ers.usda.gov/publications/aer738.pdf

questioning the presumption of joint production. If agricultural production and landscape amenities are not jointly produced, then policies other than those that support production can provide similar amenities.

Opposing countries may also contest the economic rationale that these outputs are public goods that require government intervention, citing examples where the market can provide these outputs. These countries cite the fact that WTO members agreed to limits on the level of trade-distorting support, and that trade agreements require countries to consider the effects of domestic policy on global markets.

While most countries agree on the desirability of noncommodity benefits of agriculture, opposing countries believe that policies to address non-trade concerns should be targeted, transparent, and have little or no trade-distorting impact. These countries favor addressing non-trade concerns through "green box" policies. Green box policies are considered to be minimally trade distorting for WTO purposes, and are therefore exempt from reduction commitments. These policies include environmental, domestic food aid, and certain regional assistance programs. Countries that have been the strongest advocates of this viewpoint include Australia, New Zealand and other Cairns Group members, and the U.S.

Jointness is also a factor for negative externalities in both the non-trade concerns and trade and environment debates. Trade liberalization leads to global economic growth and one concern is that expansion in agricultural output will also increase associated externalities, like water pollution, soil erosion, and loss of biodiversity.

The U.S. proposal for WTO negotiations on agriculture recognizes the importance of policies that address non-trade concerns. At the same time, the U.S. has expressed its view that non-trade concerns are best met through non-trade-distorting means, in order to avoid imposing the costs of achieving these objectives on other countries. These costs can be considerable. A 2001 study by USDA's Economic Research Service estimated that price-distorting agricultural policies—market access limitations, domestic support to producers, and export subsidies—cost the world economy $56 billion annually in lost welfare, or consumer purchasing power.

The U.S. Experience

Many of the concerns cited in the international debate already feature prominently in U.S. agricultural policy. Moreover, these benefits are also provided in the U.S. through a combination of private actions and public policies. The following examples illustrate how non-trade concerns—environmental protection, rural landscape and cultural heritage, and strong rural communities—are addressed by U.S. policy.

Environmental protection. Americans value the environmental benefits offered by agriculture, such as habitat for migrating waterfowl, but also recognize the potential negative impacts of agriculture on land and water resources. Conservation programs have been part of U.S. farm policy since the 1930s. The scope of environmental concerns addressed by present-day conservation programs encompasses the impacts of animal waste, nutrients, and pesticides on surface and groundwater quality, the impacts of agriculture on coastal resources, and the preservation and restoration of wetlands, other ecosystems, and wildlife habitats.

Many environmental impacts—both positive and negative—are closely linked to agricultural production. This close linkage potentially makes a case for the jointness of environmental spillovers and agricultural output. Some U.S. conservation programs create benefits including wildlife habitat, improved water quality due to filtering of agricultural runoff, and floodwater control by taking environmentally sensitive land out of production. The largest program is the Conservation Reserve Program. The Wetlands Reserve Program assists landowners in returning farmed wetlands to their original condition

through easement payments (voluntary legal agreements that restrict production, development, or other specified activities on farmland) and restoration cost sharing.

U.S. policy also provides numerous examples of how environmental benefits, and control of negative environmental impacts, can be addressed through means other than controlling the level of agricultural production.

- Cross-compliance provisions of U.S. farm legislation require a basic level of environmental compliance as a condition for farmer eligibility for other government programs.
- Cost-sharing programs like the Environmental Quality Incentives Program (EQIP) and the Wildlife Habitat Incentives Program target areas of special environmental sensitivity by contracting with individual farmers to implement conservation practices.
- The new farm bill establishes a Conservation Security Program that provides incentive payments to farmers for maintaining and adopting conservation practices on land in production, and increases funding for existing conservation programs like EQIP.
- Regulatory programs (the Clean Water Act, Endangered Species Act, and Federal Insecticide, Fungicide and Rodenticide Act) require that farmers restrict the use of pesticides which might adversely affect water quality, certain wildlife species or their habitat, or human health.

Rural landscape, cultural heritage, and farmland preservation. Preserving traditional agricultural landscapes in many areas of the U.S. is closely linked to preservation of the region's historical and cultural heritage. Farmland preservation is relevant when farming faces development pressure in the urban fringe. Farms in metropolitan areas comprise one-third of all farms in the U.S. (but a smaller share of agricultural output). Arguments for preserving these farms, however, go beyond agricultural policy; they are linked to issues of urban revitalization, transportation policy, environmental policy, and judicious use of infrastructure, including schools, roads, and sewers.

Non-Trade Concerns in the U.S. Proposal for WTO Negotiations on Agriculture

The following discussion is excerpted from: World Trade Organization. "Proposal for Comprehensive Long Term Agricultural Trade Reform: Submission from the United States," G/AG/NG/W/15, 23 June 2000. (www.ustr.gov/sectors/ltprop.htm)

"The United States is committed to working through the WTO to eliminate trade-distorting measures. The United States is likewise committed to and supports policies that address non-trade concerns, including food security, resource conservation, rural development, and environmental protection."

"These objectives are best met through non-trade-distorting means, with programs targeted to the particular concern without creating new economic distortions, thus avoiding passing the cost of achieving these objectives to other countries by closing markets, or introducing unfair competition, or both."

"The United States proposes building on the key elements of the Agreement on Agriculture … making progress through a fairer and simpler approach to capping, binding, and reducing trade-distorting support. This approach recognizes the legitimate role of government in agriculture. In particular, the U.S. proposal allows for support that is delivered in a manner that is, at most, minimally trade distorting. This could include, among others, income safety-net and risk management tools, domestic food aid, environmental and natural resource protection, rural development, new technologies, and structural adjustment which promote economically sustainable agricultural and rural communities."

"The United States proposes to enhance further…the criteria for exempt support measures while ensuring all exempt measures are targeted, transparent, and, at most, minimally trade-distorting."

Preserving farmland in order to maintain the rural landscape might be seen as an argument for joint production. However, most policies aimed at preserving farmland do not require that such lands produce agricultural goods, and many protect farmland through means that would qualify as green box policies.

A range of public policies and private actions seek to preserve agricultural lands, as well as to promote other objectives. Some examples of public policies include:

- Purchase of Development Rights, primarily state and local programs that purchase conservation easements on agricultural land and thereby prevent it from being converted to commercial or residential uses.
- The Federal Farmland Protection Program uses Federal funds to match state and local funding designated for purchasing permanent easements.
- Governments may place restrictions on the type of activity that can occur in a geographic area by establishing agricultural zoning, agricultural districts, or urban growth boundaries, essentially prohibiting agricultural land from being converted to urban or suburban development.
- Many states give tax breaks to agricultural landowners in an effort to keep agricultural land from being converted to other uses as property values rise.

Private activities can complement these government efforts. Local, regional, or state nonprofit conservation organizations help protect natural, scenic, recreational, agricultural, historic, and cultural property. Several private groups have formed at the national level for the purpose of raising and pooling funds to purchase land, including the National Preservation Trust, Ducks Unlimited, and The Nature Conservancy. Private conservation organizations also purchase development rights to land, or may seek donations of property. Government may be a partner in these efforts by offering tax benefits for donations,

providing an example of how public policy can complement private actions.

Market-based initiatives can help develop and promote solutions to preserving agricultural lands. Agritourism provides another source of income for farmers and thus may help preserve farmland. Governments may assist in developing market-based solutions through marketing assistance and promotion activities, extension, and technical assistance. Where rising land values put pressure on farmers to sell farmland for development, producing higher value goods can help increase market returns. Government can assist in identifying markets for high-value products and encourage farmers to use marketing techniques better suited to an urban environment. Community-based agriculture, whereby consumers purchase shares of a farm's crop and receive a weekly delivery of fresh produce in return, can help sustain small producers and preserve farmland in the urban fringe.

Strong rural communities. Rural communities face a number of challenges, including lagging incomes, lack of economic opportunities, and an inability to attract new businesses because of relatively poor infrastructure. While some proponents of non-trade concerns claim that agricultural production is needed to ensure the viability of rural areas, developing strong rural communities requires policies that target a range of objectives beyond those strictly related to agriculture.

Characteristics of rural America shape the U.S. policy response to the needs of rural communities. Farming is no longer the main economic activity in rural America. A mix of manufacturing, services, and other nonfarming activities now dominates the majority of rural counties in the U.S. Many farm households, particularly those on intermediate-sized and smaller farms, are reliant on these local mixed economies because they depend on off-farm earnings for a majority of their income.

Rural development policies in the U.S. include a mix of public and private instruments for increasing rural employment and sustaining rural communities. Public policies are geared toward providing general services, including public education, employee training, and physical and social infrastructure. The Federal government also provides funding for telecommunications, transportation, housing, and technical assistance aimed at improving rural infrastructure. Several Federal and numerous state and local programs provide tax and other incentives for private investment in distressed rural areas. And some private foundations provide grants for rural development projects to deal with the challenges of job loss, decline in income, out-migration of young people, and persistent poverty.

Future Directions

Changes in society's expectations of agriculture, combined with WTO commitments to reduce trade-distorting support, have increased the attention given to the noncommodity outputs from agriculture. Consumers have come to expect services from agriculture that range from picturesque farmsteads to enhanced environmental quality. Increased demand for environmental quality may provide greater market opportunities for goods produced using environmentally friendly practices, and thus increase the potential for market-based solutions to provide for environmental quality.

Several U.S. policies illustrate how noncommodity benefits can be provided without agricultural production. If the agricultural negotiations in the current Doha Round yield commitments to further reduce agricultural support and protection, countries may need to rely increasingly on such measures to provide these benefits. AO

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For further reading:

"The Use and Abuse of Multifunctionality," November 1999, www.ers.usda.gov /briefing/WTO/PDF/multifunc1119.pdf

Agricultural Policy Reform in the WTO—The Road Ahead (ed. M. Burfisher). AER No. 802, May 2001. www.ers.usda.gov/publications/aer802

"Development at & Beyond the Urban Fringe: Impacts on Agriculture," *Agricultural Outlook*, AGO-283, August 2001, www.ers.usda.gov/publications/ AgOutlook/aug2001/AO283f.pdf

"Community Food Security Programs Improve Food Access," *Food Review*, Volume 24, Issue 1, January-April 2001, pp. 20-26, www.ers.usda.gov/publications/FoodReview/Jan2001/FRV24l1d.pdf

Food and Agricultural Policy: Taking Stock for the New Century. USDA, Washington, D.C., September 2001, www.ers.usda.gov/news/publs/ farmpolicy01/fullreport.pdf

World Trade Organization. "Proposal for Comprehensive Long Term Agricultural Trade Reform: Submission from the United States," G/AG/NG/W/15, 23 June 2000, www.ustr.gov/sectors/ ltprop.htm

World Trade Organization. "The General Agreement on Tariffs and Trade (GATT 1947)," *The Results of the Uruguay Round of Multilateral Trade Negotiations* (The Legal Texts), Geneva, 1995.

Upcoming Reports—USDA's Economic Research Service

The following reports are issued electronically at 4 p.m. (ET) unless otherwise indicated.
www.ers.usda.gov

July

- **11** *World Agricultural Supply and Demand Estimates (8:30 a.m.)*
- **12** *Oil Crops Outlook***
  *Cotton and Wool Outlook***
  *Rice Outlook***
- **15** *Feed Outlook (9 a.m.)*
  *Wheat Outlook (9 a.m.)***
- **16** *Livestock, Dairy, and Poultry Situation and Outlook***
- **22** *U.S. Agricultural Trade Update***
  *Agricultural Outlook (3 p.m.)**
- **23** *Fruit and Tree Nuts Outlook***
- **25** *Vegetables and Melons Yearbook**

**Release of summary.*
***Electronic newsletter.*

Kenneth H. Mathews Jr

Public Lands & Western Communities

The demographics of the West are changing rapidly. Net migration into the West and changing social preferences for recreation opportunities and environmental amenities are increasing demand for recreational/environmental goods and services which is, in turn, reshaping the economic relationship between public lands and rural communities.

Net migration into the West has exceeded migration into other areas of the country by a large margin. For 1990-97, net migration into nonmetro areas of the West was three times that into nonmetro areas outside the West (10.2 percent compared with 3 percent). For the same period, net migration into Western metro areas was over twice that for metro areas in other regions (3.7 percent compared with 1.6 percent).

Public lands include many types of land administered by a number of government agencies, including the Department of Defense, Department of Interior (Bureau of Land Management, Bureau of Indian Affairs, National Park Service, and others), Department of Agriculture (Forest Service), and other Federal, state, and local agencies. This article focuses on lands administered by the Forest Service (FS) and the Bureau of Land Management (BLM).

Recent statistics show that for lands managed by the FS and BLM, visitor days for recreation increased from 225 million in 1983 to over 400 million in 1997. These changes indicate the need for policymakers to recognize both the growing recreational and environmental demands on public lands and the ongoing needs of traditional users of these lands—such as livestock producers, logging operations, and mining interests.

Land management regulations were first imposed on uses of forest reserve lands (now Forest Service lands) in 1897 and grazing fees were first imposed in 1906. The Taylor Grazing Act (1934) established control over grazing on the public domain now administered by BLM.

Multiple-use management objectives (defined as "a combination of balanced and diverse resource uses that consider long-term needs for renewable and nonrenewable resources, including recreation, livestock grazing, timber, minerals, watershed, and wildlife, along with scenic, scientific, and cultural values"), came into vogue in the 1970s and became important components of FS policy. These objectives were incorporated into a serious land-management strategy for both agencies with the adoption of "Rangeland Reform '94", which expanded the emphasis in public land policy to include a broader set of uses than livestock grazing. A recent example of this shift is in the Mojave Desert, where cattle grazing has been restricted to protect the endangered desert tortoise.

Emerging Uses of Public Lands in the West

Many activities in addition to livestock grazing occur on public lands. Several independent studies demonstrate the economic contributions of these activities to rural communities. One study found that 77 million people in the U.S. spend $104 billion for wildlife recreation annually. Another found that for two public grazing allotments in Idaho, hunting for elk and deer had a higher economic value than livestock grazing—suggesting potential benefits from multiple-use management. Results from a Utah study estimated the implicit value of an extra deer at $64 (in 1997 dollars). A survey of recreation activity studies, including camping, fishing, hunting, skiing, picnicking, boating, and water sports, estimated expenditures ranging from $9.28 per person per activity day (PPAD) for camping to $240 PPAD for non-motorized boating (1997 dollars). The survey also valued big game hunting between $29 and $206 PPAD. The share of these activities occurring on public lands was not specified.

FS/BLM statistics demonstrate the changing economic and recreational environment of Western public lands. Recreation categories are virtually the only categories showing increases from 1988-97, and the changes are dramatic—almost a twenty-fold increase in FS recreation fee receipts. These receipts are partially offset by costs of providing recreational services. Traditional activities, like mining and timber, have decreased or increased only moderately.

Sporting activities, many of which take place on public lands, have mostly increased in the West. The number of anglers in the West (including Hawaii) increased 22 percent from 1980-90.

How Are Grazing Fee Receipts Distributed?

Forest Service fees:

- 25 percent to states for distribution to the county of origin for roads and schools,
- 25 percent to the U.S. Treasury, and
- 50 percent to the Range Betterment Fund, which is used to improve forests from which it was collected.

Bureau of Land Management fees:

- Grazing permit receipts (Section 3 of the Taylor Grazing Act):
  - 12.5 percent to the state where collected,
  - 37.5 percent to the U.S. Treasury, and
  - 50 percent to the Range Betterment Fund, which is used to improve public lands from which it was collected;
- Grazing lease receipts (Section 15 of the Act):
  - 50 percent to the state where collected, and
  - 50 percent to the Range Betterment Fund.

Hunters declined by half a percent, but the number of sportsmen overall increased by 18 percent.

The snow-skiing industry has been growing for some time. Ski areas are often heavily-used, year-round recreation facilities that contribute significantly to the economic activity of rural communities. Nationally, 41-53 percent of ski areas operated with a FS permit from 1972-93. Colorado Ski Country USA observed that money flowing into ski areas often comes from outside sources, but remains in the local economies. In several counties, net taxable retail sales increased from $3-$14 million in 1963 to $22-$72 million in 1974. In its impact study of the Colorado ski industry, Colorado Ski Country USA, concluded that counties with snow-skiing areas have achieved major improvements in socioeconomic conditions over the study period.

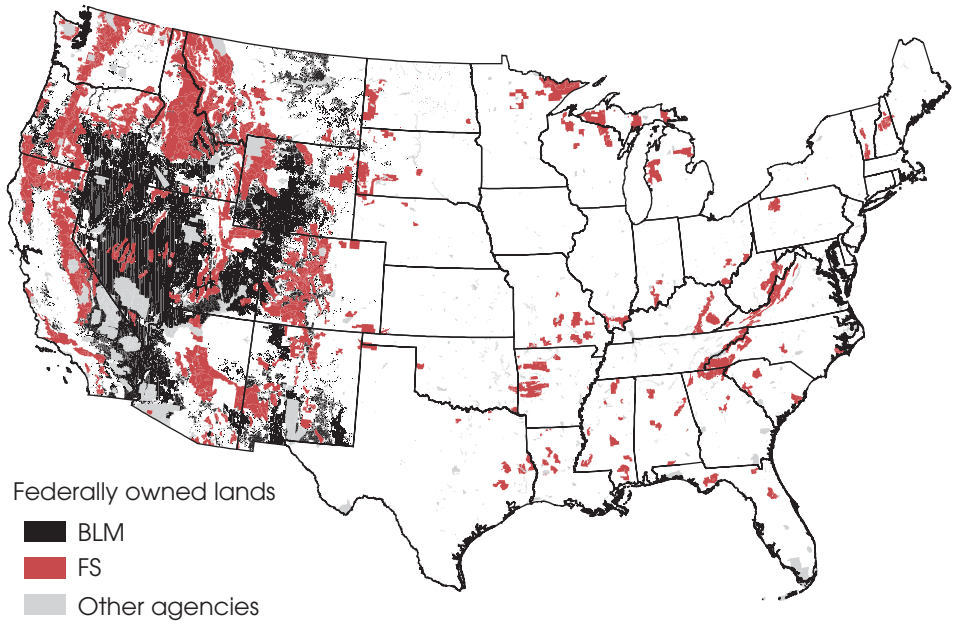
Economics of Public Land Ranching

Public-land ranching has also changed over time in the Westwide states (the 11 states west of Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas). Grazing needs are usually measured in animal unit months (AUMs)—the amount of forage or vegetative feed required to sustain a 1,000-pound cow (and her calf up to six months of age) for one month. This measure assumes that an animal unit consumes about 26 pounds of forage (dry-weight basis) per day. While public grazing AUMs for billing purposes have declined only about 1 percent from 1982-92, the number of permittees has declined 14 percent, and cash receipts for cattle and calves have decreased 7 percent (in 1982-84 dollars). Real receipts for public grazing allotments from 1988-97 have decreased by a third or more.

Despite the persistent image of the typical Western livestock producer as a public-land rancher, only about 6 percent of livestock producers in the 17 states west of the Mississippi River have FS/BLM grazing allotments. Nationally, public-land ranchers account for less than 1 percent of operations with beef cattle. The approximately 28,000 grazing allotment permits in the 17 Western states (Westwide states plus Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas) are distributed to about 23,600 permittees (operations). In this same area, and excluding dairy operations and feedlots, there are about 414,000 operations with beef cattle. Some 3-4 million head of beef cattle in the Westwide states, or about 40 percent of beef cattle inventories (about 8 percent nationally), may spend some time grazing public lands. The remaining forage needs are met through private sources, like private pasture, hay, some other harvested forage, or from other non FS/BLM-administered public land.

Despite the omnipresence of public lands in the West, livestock grazing on public

Most Public Lands Are Administered by the Forest Service and Bureau of Land Management



Economic Research Service, USDA

Recreation Categories Show Largest Gains in Public Land Use Receipts

	1988	1997	Percent change[1]
	$ *Million*		*Percent*
Forest Service			
Sale of timber and use of other forest resources	1,289	197	-84.7
Use of National Grasslands & land utilization areas	41	24	-40.1
Timber sale area betterment	323	14	-95.6
Cooperative work for others	79	40	-50.0
Brush disposal	80	19	-75.6
Miscellaneous (sales, rentals,damages, etc.)	14	10	-30.7
Restoration of forest lands and improvements	0	1	433.5
Golden Eagle passports*	0	1	1,848.4
Timber salvage sales	40	177	347.7
Operation and maintenance of quarters	8	7	-9.3
Gifts, donations, and bequests	2	1	-63.0
Cash receipts from FS lands collected in conjunction with, and deposited to, accounts of other agencies	188	158	-16.2
Noncash income (roads built by timber purchasers)	133	37	-72.3
Total	4,184	2,682	-35.9
Bureau of Land Management			
Mineral leases and permits	367	48	31.2
Sales of timber	327	83	-74.7
Sales of land and materials	10	19	94.3
Grazing leases, licenses, and permits			
Permit receipts (Section 3)	17	12	-30.5
Lease receipts (Section 15)	3	2	-34.0
Other	1	1,	-21.7
Fees and commissions	4	1	-69.9
Rights-of-way	4	7	76.0
Rent of land	0	1	107.6
Recreation fees	0	4	
Other sources	1	2	121.9
Total	403	179	-55.5

1. In 1997 dollars.
*Golden Eagle passports are used by the National Parks to allow consumers to prepay park entrance fees annually.
Sources: Report of the Forest Service: Fiscal Year 1988 and 1997, USDA, Forest Service, 1989 and 1998. Public Land Statistics: 1988 and 1997, U. S. Department of Interior, Bureau of Land Management, 1989 and 1998.

Economic Research Service, USDA

land accounts for a relatively modest share of the economic activity of the West as a whole. Livestock receipts in 1992 for the Westwide states totaled about $16 billion, representing 1 percent of total Westwide states gross domestic product. Cattle and calves and sheep and lambs accounted for about 65 percent of the $16 billion, and less than 40 percent of that, or about $3-$4 billion, can be attributed to grazing on public lands.

Studies of economic effects of changes to public grazing policies (often proposed as grazing fee increases or reductions in grazing allotments) on livestock-based rural communities generally show reduced ranch incomes. Ranch incomes fall because reduced allotments reduce the number of cattle sold and/or forage costs rise. There are also implications for ranch values and asset values used in loan collateral calculations. In addition, direct effects on ranch incomes would lead to indirect and income effects as reduced ranching activity impacts other local economic sectors—feed suppliers, equipment dealers, other agricultural suppliers, and local consumers. Economic effects are generally larger for locally affected areas, but tend to dissipate as the geographic scale of economic activity increases—often disappearing at the national level. However, grazing fee increases would generate partially offsetting, communitywide, positive economic effects because large portions of fee receipts are distributed within the area where fees are collected.

A recent analysis by USDA's Economic Research Service (ERS) grouped 416 counties according to the share of total countywide AUMs estimated to come from FS/BLM-administered public land. Thirteen counties were 80- to 100-percent dependent on federal lands for forage, 27 were 50- to 80-percent dependent, 36 were 30- to 50-percent dependent, 82 were 10- to 30-percent dependent, and 258 were 0- to 10-percent dependent. The data were then examined for the 10 most dependent counties in each of the dependency groups (a subset of 50 counties).

Generally, the less dependent an area is on Federal land for grazing, the more available are alternative sources of forage, especially privately-owned land. The study found that 62 percent of counties in the Westwide states depend on FS/BLM-administered land for up to 10 percent of their total livestock forage (including 10 percent of counties with no dependence on Federal land). These counties accounted for 60 percent of Westwide AUMs and 73 percent of Westwide livestock sales.

Three-fourths of counties Westwide derive less than one-fifth of their total AUMs from FS/BLM-administered land. These counties account for 73 percent of Westwide AUMs and 82 percent of Westwide livestock sales.

Highly dependent counties tend to be somewhat clustered and could indicate areas where local economic effects could be highly significant and with more than local impact. Fewer than 10 percent of counties derive half or more of their total livestock forage from FS/BLM-administered grazing allotments. Westwide, these counties account for less than 6 percent of AUMs and less than 5 percent of livestock sales. Counties showing more than 50 percent dependence on FS/BLM-administered land tend to be among the least densely populated counties.

Economics of Rural Communities

Economic data for these 416 counties in the Westwide states demonstrate the importance of activities other than livestock grazing.

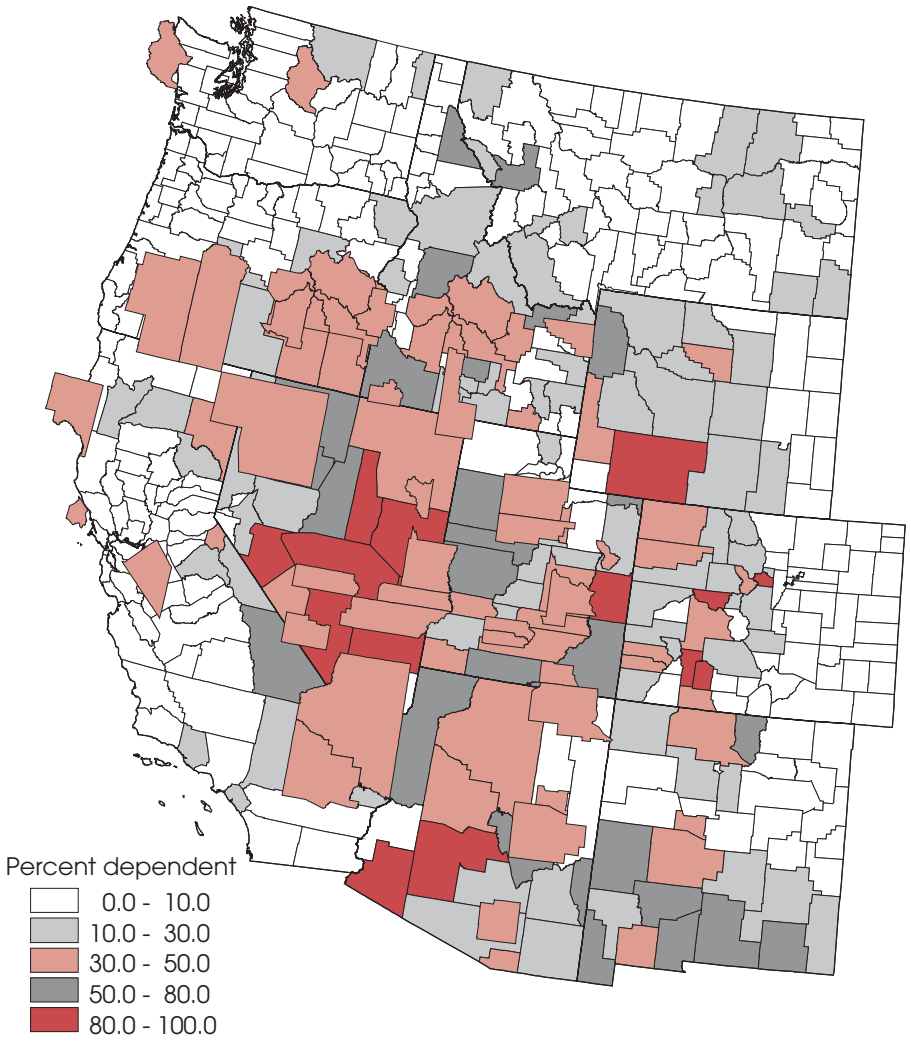
As a share of county personal income, agricultural value exceeds 50 percent for only four of the remaining 50 counties:

- Camas County, Idaho (57 percent),
- Lincoln County, Idaho (71 percent),
- Power County, Idaho (87 percent), and
- Prairie County, Montana (96 percent).

All four counties have low populations, ranging from 991 people (Camas County) to 7,538 (Power County).

As important as agriculture is to these counties, the shares of county income estimated to come from public land ranges from 2.5 percent in Power County to 21 percent in Lincoln County. Lincoln County, at 73-percent dependence, is the only one of these four counties whose livestock industry is more than 50-percent dependent on public land. The livestock industry in Prairie County is 30-percent dependent on public land. However, the Prairie County economy is heavily dependent on livestock production, with the value of agricultural products equivalent to 96 percent of personal income and 69 percent of the value of agricultural products coming from livestock sales. These counties would likely be severely affected by adverse grazing policies.

Less Than 10 Percent of Counties Get More Than Half Their Forage From FS/BLM Lands



Economic Research Service, USDA

Personal income for these 50 counties ranged from $14.37 million (Mineral County, Colorado) to $71 billion (San Diego County, California) in 1997. For most of these counties, the market value of all agricultural products is less than 10 percent of personal income. The majority of income in these counties comes from nonagricultural sources, like mining, construction, manufacturing, services, and government. Often, these and other activities also depend on public land. Services, including services for recreation and tourist-oriented industries, and government, account for large shares of personal income. Industry sales for mining are 50 times higher than agricultural sales in Sweetwater County, Wyoming, where livestock account for almost 80 percent of agricultural product sales. Agricultural sales in Sweetwater County are also small compared with construction, manufacturing, services, and government. A large share of income for Power County, $73 million, is from manufacturing. One caveat is that of these activities, like manufacturing and government, some portion is often involved in supporting agricul-

ture, but not always counted as agriculture in the economic data.

Multiple Uses for Multiple Users

Public lands continue to be economically important to rural communities throughout the West, although the nature of the relationship is changing. While traditional land use activities remain important, continuing demographic changes in the West are likely to put additional pressures on public land use. Traditional uses such as grazing, mining, and forestry remain key sources of rural jobs and income. At the same time, alternative uses of public lands such as outdoor recreation and conservation have gained in economic importance to rural communities. Selling recreation-related goods and services such as lodging, guide services, and equipment to public land visitors has become a vital part of many rural economies. Similarly, some of the fastest growing areas in the West are rich in natural environmental amenities and are near public lands whose abundance of wildlife and open spaces attracts new residents.

For public land managers concerned with the health and well-being of rural communities, it is increasingly important to balance the needs of a much more diverse set of users and activities than in the past. Where the demand for open space is a significant factor in generating economic growth in a community, grazing activities on public lands not only support ranching activity on adjacent private lands, but also act as a buffer to rapid urbanization and/or loss of open spaces.

For most rural economies, and for the West as a whole, expanding the multiple-use management objective for public lands to include more emphasis on recreational opportunities and environmental amenities will mean relatively minor, and in some cases, modestly positive economic impacts. For those communities that are heavily dependent on ranching and public land grazing, economic effects could be significant. Analysis of use of public lands for livestock grazing, from the more aggregate rural and regional economy perspectives, showed that negative economic impacts associated with the changing relationship between rural economies and public lands are generally limited to ranchers who are directly affected and a few rural communities. AO

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For further information see:

A Time to Act, a Report of the USDA National Commission on Small Farms, can be accessed at www.reeusda.gov/smallfarm/report.htm

Cromartie, J.B., and J.M. Wardwell. "Migrants Settling Far and Wide in the Rural West." www.ers.usda.gov/Publications/rdp/rdpsept99/contents.htm

For data on local area personal income see: U.S. Department of Commerce, Bureau of Economic Analysis www.bea.doc.gov/bea/regional/reis

June Releases—National Agricultural Statistics Service

The following reports are issued electronically at 3 p.m. (ET) unless otherwise indicated.
www.ers.usda.gov/nass/pubs/pubs.htm

June

3 Dairy Products
Egg Products
Crop Progress (4 p.m.)
4 Weather - Crop Summary (noon)
5 Broiler Hatchery
7 Dairy Products Prices (8:30 a.m.)
Milkfat Prices (8:30 a.m.)
Poultry Slaughter
10 Crop Progress (4 p.m.)
11 Weather - Crop Summary (noon)
12 Crop Production (8:30 a.m.)
Broiler Hatchery
13 Turkey Hatchery
14 Dairy Products Prices (8:30 a.m.)
Potato Stocks
17 Milk Production
Crop Progress (4 p.m.)
18 Weather - Crop Summary (noon)
19 Broiler Hatchery
20 Cherry Production (tent.) (8:30 a.m.)
21 Dairy Products Prices (8:30 a.m.)
Milkfat Prices (8:30 a.m.)
Catfish Processing
Cattle on Feed
Chickens and Eggs
Cold Storage
Livestock Slaughter
24 Crop Progress (4 p.m.)
Monthly Agnews
25 Weather - Crop Summary (noon)
26 Broiler Hatchery
27 Agricultural Prices
Peanut Stocks and Processing
28 Acreage (8:30 a.m.)
Dairy Products Prices (8:30 a.m.)
Grain Stocks (8:30 a.m.)
Quarterly Hogs and Pigs

Peter L. Stenberg

Communications & the Internet in Rural America

Since the late 1990s, the telecommunications industry has witnessed a dramatic swing in its economic fortunes. From the "dot-com boom,"—during which investors became convinced that classic economic laws did not apply to the sector—to the "dot-com bust"—when investors discovered these laws do apply—expectations for growth in telecommunications services has moved from boundless to bleak. There is evidence that reality lies somewhere in the middle. Even in the current downturn in the telecommunications sector, businesses and households have continued the upward trend in volume of commercial activity on the Internet. Households alone spent $5.7 billion on Internet retail purchases during December 2001.

Communications and information services delivery, through systems such as telephone and Internet, have, in fact, become an increasingly important factor in the growth of the economy, despite recent volatility in the sector. As with other technological service developments, however, the diffusion of communication and information services varies in time and place, which has implications for rural areas and households.

Based on an analysis of data from U.S. Department of Commerce surveys and from private industry, variations in diffusion and adoption of communication services conform to two well-accepted economic principles:

- Companies invest in providing new services where they earn the highest returns, and
- Households adopt new services if they can afford them and either need or desire them.

When these principles fail to provide the level of telecommunication services deemed necessary or equitable by policymakers, government policies have been developed to encourage or require wider delivery of services or provision of services at lower costs. The universal service program and emergency 911 service are two such policies.

Communication & Information Service Adoption

It took nearly 100 years after the first commercial use in 1877 for telephone service in the U.S. to reach its current household penetration rate, and for most of that time, people debated whether telephones were a necessity or a luxury.

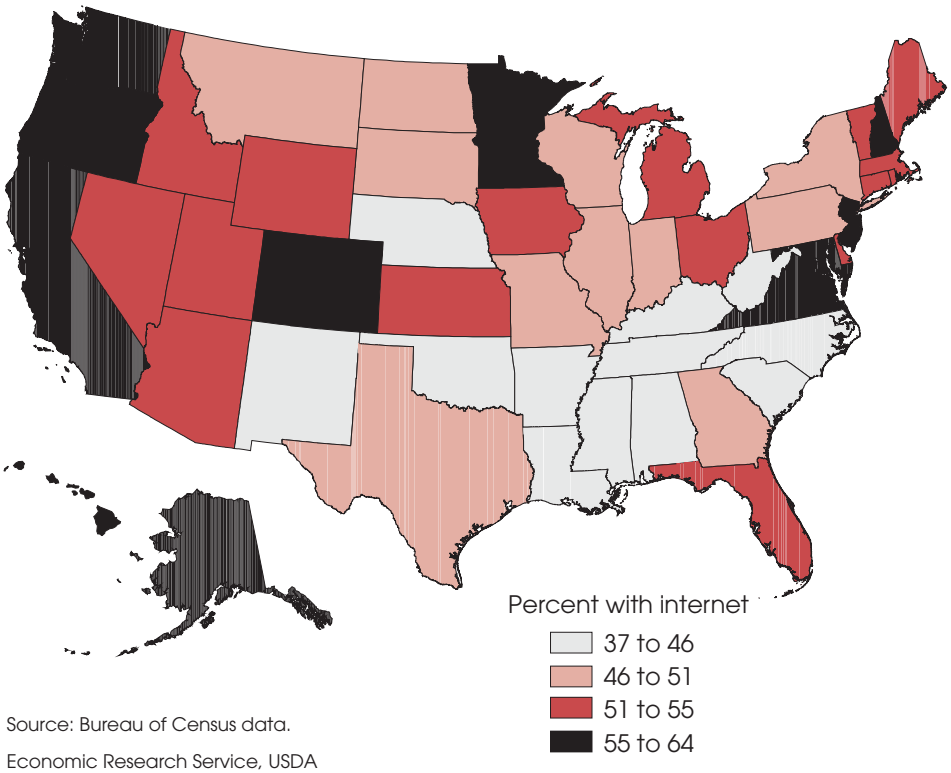
Although penetration rates for having at least one telephone in a household vary across regions and income groups, the rate has remained stable for the last 20 years at roughly 95 percent of all households. The current regional pattern of adoption has been consistent for the last 10 years, with the distribution of household income a strong predictor of the penetration rate for any particular state. The adoption rate for rural areas is comparable to urban areas, largely as a consequence of Federal and state policies that have both subsidized and regulated the cost of telephone services in less densely populated areas.

The household demand for telephones remains fairly consistent no matter what the cost for basic service, although the lower the household income, the less likely the household is to have telephone service. Analysis indicates that at about $25,000 in annual household income, the cost of telephone service becomes an affordability consideration for lower income households. Current Federal and state programs, called universal service programs, effectively subsidize the telephone rates for all households; if not for these programs, affordability would likely become a consideration for those with annual household income above $35,000. For rural households, the effect would be even greater, since there is a higher rate of subsidization in rural areas.

Wireless telephone service (cell phones) has been promoted as a more cost-effective means to deliver local phone service to rural households. Because there would no longer be the need to run wire to each household, both the fixed and marginal costs are potentially lower with wireless service.

Wireless services are starting to make inroads into the demand for traditional phone service—the latest data on communication and information services use indicate some middle-income households are dropping traditional phone service in favor of cell phones. High-income households are largely using both services.

Households with Internet Connections Are Below 46 Percent in Only 12 States



Source: Bureau of Census data.

Economic Research Service, USDA

Wireless, however, is not yet a perfect substitute for traditional telephone service—the average purchase price for wireless service is still greater than for traditional telephone service. In both urban and rural areas, low-income households, for whom the cost difference between traditional and wireless services is critical, continue to use traditional phone service.

Two potential events might change that balance: current government programs to keep local phone service affordable could be eliminated, or current programs could be adjusted to include wireless service. While there are advocates for eliminating current programs, the trend so far has been to add wireless services to already existing programs. At least four states now include wireless service in their universal service programs. Wireless carriers receive intra-industry financial transfers to reduce household subscription prices.

Internet use by rural and urban households has also increased significantly during the 1990s, so significantly that it has one of the fastest rates of adoption for any household service. Whether the household adoption rate has been faster than for the telephone, television, color television, and the VCR, as Internet proponents claim, depends on how the initial adoption is dated. It seems undeniable, however, that diffusion and adoption of Internet services has been remarkably fast.

Internet use has increased for households in all regions and income groups regardless of rurality. Half of all American households now subscribe to some Internet service; over 40 percent of rural households subscribe. Since the penetration rate for urban households has likely come closer to its peak than the rate for rural households, the difference between rural and urban rates should close further. Nevertheless, Internet use in rural areas still lags both in aggregate and across income groups. Analysis of industry data suggests that critical elements in Internet service delivery, such as industry structure, may be impeding diffusion and adoption in these less densely populated rural areas. Thus, the penetration rate will remain lower for rural households than for urban households.

Recent data indicate the pace of Internet adoption may be beginning to slow. Higher income households may have already reached a saturation point; survey results from households in this income group indicate that those who do not yet use the Internet at home do not want it. Lower income households may continue to adopt Internet use more rapidly than higher income households, as the service comes to be seen as more essential. Income, however, is a much more limiting factor for Internet adoption than for telephone use—the lower the household income the less likely Internet service is affordable. Affordability is a greater factor for rural than for urban households.

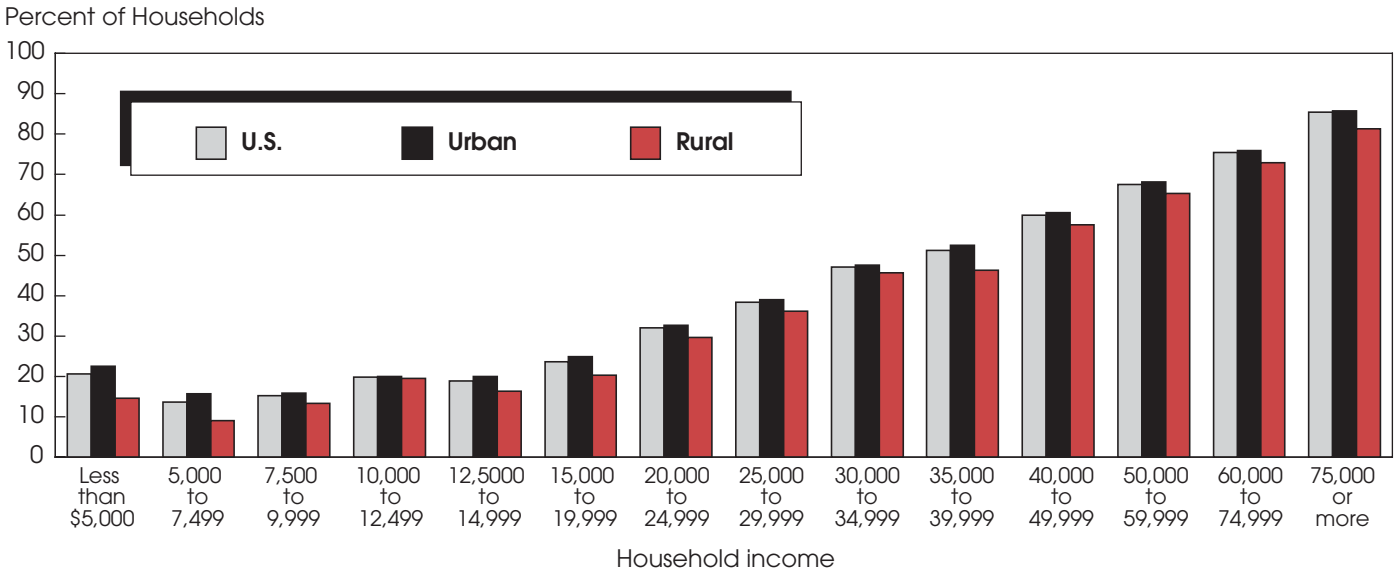
Higher Costs Slow Diffusion in Rural Areas

Local exchange carriers (local telephone companies) incur higher costs for providing rural households with telecommunication services than they do for urban households, for straightforward economic reasons. As population density decreases, the price for delivering traditional or wireless phone service increases exponentially. All rural areas, by definition, are characterized by low population density. The fewer people in any relevant geographic space, the fewer share in the costs for telecommunication services—central office switches, loop maintenance, and other common components of the local telecommunication system. In addition, rural telephone service providers must spend more per customer for maintenance and repair than do urban providers.

These economies of scale are true whether phone service is delivered through traditional copper wire or through new wireless services. Because equipment manufacturers focus on the needs of more profitable large-scale telecommunication companies (as large-scale companies focus on where they have the highest returns), small telecommunication companies often face difficulties in purchasing equipment scaled for their operations.

The structure of the telecommunication industry also continues to play an influential role in the delivery of telephone and Internet service in rural areas. When the telecommunication industry comes up in conversation, people often think only of

Internet Access Increases With Household Income, With Rural Lagging Urban



Source: Bureau of the Census.

Economic Research Service, USDA

the four remaining "Baby Bells"—SBC, Verizon, BellSouth, and Qwest. Actually, there are more than 1,000 telecommunication service providers—most are small in scale and concentrated in rural areas, many are organized as cooperatives. The spectrum of providers ranges from "mom-and-pop" operations serving as few as 10 households to the Baby Bells with millions of customers. Quality of service varies considerably across these providers, and even within the service areas of the largest providers.

Federal Policy Facilitates Diffusion

Federal policy has been developed to facilitate the diffusion of new communication and information services, and to address equity issues associated with cost barriers to providing equivalent telecommunication services to rural areas. The Telecommunications Act of 1996, the cornerstone of current policy, deregulated the communication and information sectors and updated universal service provisions that have led to a near universal availability of a minimum level of service at affordable rates. The Federal Communications Commission (FCC) has been mandated to determine what is "affordable."

Deregulation of the communication and information service sector is intended to improve economic efficiency in the sector by allowing companies to enter new markets, reducing governmental oversight, and facilitating formation of new companies and the merger of older firms. The new universal service provisions build on previous policies that resulted in fairly uniform prices across the country for local telephone service. The uniformity in price, however, does not guarantee uniformity in quality of service, nor does universal service address the cost of toll calls, which can be a significant expense for some rural households.

Universal service provisions also provided $2.25 billion dollars in new funds annually to help pay for modern communication infrastructure for schools and medical facilities in high-cost (i.e., rural) and low-income communities. The Act also mandated, at some point in the future, a broadening of the definition of telephony to include Internet service provision. The FCC has been mandated to determine when to include Internet service in the universal service program.

Federal, state, and local governments also address equity issues in telecommunication and information services through a number of other programs. Key among these are programs that provide economic assistance for distance learning and telemedicine programs. Telemedicine programs provide medical services, such as X-ray readings by a radiologist, at a distance. For rural communities, these programs can improve telemedicine communication and infrastructure and increase the breadth and depth of local school curricula.

Not all Federal policy facilitates diffusion of telecommunication services. While the 1996 Act authorizes programs to make communication and information services more universally affordable, a plethora of Federal, state, and local taxes on local and long distance telephone service combine to make them more expensive. Among these is the telephone tax applied in 1898 to cover expenses incurred for the Spanish-American War. Although war debts were paid off by 1932, the tax continues to raise $5 billion per year.

Trends in Rural Communication & Information Services

Two major developments, wireless and satellite telephony, have often been cited by their promoters as overcoming the economic disadvantages rural areas have in

the use of traditional telephone service. Both technologies, however, still face constraints that keep their costs high.

Wireless services have some cost advantages in covering the "last mile" from a phone company's switch to the household, but limitations in the technology and the terrain keep costs high—overcoming dead zones (i.e., areas either too far from a communications tower or where physical barriers impede the signal) in areas with low population density quickly reduces any cost advantages.

Although satellites may hold some promise in providing broadband Internet service to rural households, so far the quality has not lived up to some of the promise. Service speed may never match broadband services obtained through telephone or cable systems because of technical limitations within the system, in addition to the better known facts regarding the time required for a signal to reach a destination and the need for household receivers to have an unobstructed view of the southern sky (any obstructions, such as trees or a hill, between the satellite and the customer's dish interrupts service).

Since the invention of the telephone, communication and information service innovations have been introduced and disseminated throughout rural America in fits and starts. Some of the recent developments in the marketplace were not even dreamed of a decade ago.

The marked decline in investment in telecommunications since the dot-com bust will slow the diffusion of Internet and other new services, but the demand for these services seems to be continuing to grow. The availability of new services and their affordability will be determined by three main mechanisms: governmental policy, the economic feasibility and technical limits of new technologies, and market incentives.

The new farm bill provides funding to increase the availability of broadband Internet services in rural areas as well as support mechanisms for rural electronic commerce, telemedicine, and distance learning. AO

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Want to know more?

Peter L. Stenberg, "Telecommunication Rural Policy in the U.S.: Issues and Economic Consequences," electronic proceedings for the conference European Rural Policy at the Crossroads, The Arkleton Centre for Rural Development Research, University of Aberdeen, Scotland, UK, 29 June – 1 July 2000, www.abdn.ac.uk/arkleton/conf2000/papers/stenberg.doc.

July Releases—National Agricultural Statistics Service

The following reports are issued electronically at 3 p.m. (ET) unless otherwise indicated.
www.ers.usda.gov/nass/pubs/pubs.htm

July

1 *Crop Progress (4 p.m.)*
2 *Weather - Crop Summary (noon)*
3 *Broiler Hatchery*
Dairy Products
Egg Products
5 *Dairy Products Prices*
Milkfat Prices
Poultry Slaughter
8 *Noncitrus Fruits & Nuts - Annual*
Crop Progress (4 p.m.)
9 *Weather - Crop Summary (noon)*
10 *Broiler Hatchery*
Vegetables
11 *Crop Production (8:30 a.m.)*
12 *Dairy Products Prices (8:30 a.m.)*
Agricultural Cash Rents
Turkey Hatchery
15 *Mink*
Crop Progress (4 p.m.)
16 *Weather - Crop Summary (noon)*
17 *Ag Chemical Usage - Fruits*
Broiler Hatchery
Milk Production
18 *Farm Production Expenditures*
19 *Dairy Products Prices (8:30 a.m.)*
Milkfat Prices (8:30 a.m.)
Cattle
Cattle on Feed
Cold Storage
Livestock Slaughter
Sheep
22 *Catfish Processing*
Crop Progress (4 p.m.)
23 *Weather - Crop Summary (noon)*
Chickens and Eggs
24 *Agricultural Prices - Annual*
Broiler Hatchery
26 *Dairy Products Prices (8:30 a.m.)*
Monthly Hogs and Pigs
Monthly Agnews
29 *Catfish Production*
Crop Progress (4 p.m.)
30 *Weather - Crop Summary (noon)*
Peanut Stocks & Processing
31 *Agricultural Prices*
Broiler Hatchery

Special Article

Does Land Degradation Threaten Global Agricultural Productivity & Food Security?

Photo courtesy of USDA NRCS

Increased resource use and improvements in technology and efficiency have raised global food production more rapidly than population in recent decades, but 800 million people remain food insecure. Meanwhile growth in agricultural productivity appears to be slowing, and land degradation has been blamed as a contributing factor.

Estimates of land degradation's impact on productivity vary widely. Productivity losses have been estimated as high as 8 percent per year due to soil erosion alone (in the U.S.), and as low as 0.1 percent per year due to all forms of soil degradation (on a global scale). These differences make it difficult to assess potential impacts on food security or the environment, and thus the appropriate nature and magnitude of policy response.

Recent improvements in economic analysis of geographic data offer new insights. Research by USDA's Economic Research Service (ERS) indicates that land degradation does not threaten productivity growth and food security at the global level. Nevertheless, problems do exist in some areas, especially where fragile resources are found along with poverty and poorly functioning markets and institutions.

Growth in Population & Income Has Increased Demand for Agricultural Commodities

Global demand for agricultural commodities has increased rapidly since the mid-20th century as a result of growth in population, income, and other factors. The world's population nearly doubled over the past four decades, to 6 billion in 1999. World population growth has slowed in recent years, but is projected to reach 9 billion by about 2050. Per capita income is projected to grow by an average of about 2 percent per year over the next decade, continuing recent trends.

Based on these factors, the Food and Agriculture Organization (FAO) of the United Nations and the International Food Policy Research Institute (IFPRI) project that global demand for cereals will increase by 1.2-1.3 percent per year over the next several decades, while demand for meat will increase slightly faster. Most of the increased demand is projected to come from developing countries, especially in Asia.

Although demand growth is slowing and remains within the range of crop production growth rates achieved over the past several decades, demand growth will continue to put pressure on land and other natural resources for the foreseeable future.

Cropland Expansion Has Slowed & Land Quality Varies Widely

FAO reports that the total area devoted to crops worldwide has increased by about 0.3 percent per year since 1961, to 3.7 billion acres in 1998. Growth has slowed markedly in the past decade, to about 0.1 percent per year, as a result of weak grain prices,

Land degradation refers to changes in the quality of soil and water that reduce the ability of land to produce goods and services that people value. Some forms of land degradation, such as nutrient depletion, can be halted and even reversed relatively easily, for example by appropriate application of fertilizers. Other forms of land degradation, such as erosion or salinization, can be slowed or halted through appropriate management practices, but are generally very costly or time-consuming to reverse.

Agricultural productivity is a measure of the amount of agricultural output that can be produced with a given level of inputs. Agricultural productivity can be defined and measured in a variety of ways, including the amount of a single output per unit of a single input (e.g., tons of wheat per acre of land or per worker), or in terms of an index of multiple outputs divided by an index of multiple inputs (e.g., the value of all farm outputs divided by the value of all farm inputs).

Food security is generally defined in terms of access by all people at all times to sufficient food for active, healthy lives. As such, food security depends not only on how much food is available, but also on the access that people have to food—whether by purchasing it or by producing it themselves. Access depends in turn on economic variables such as food prices and household incomes, as well as on agricultural technology and the quantity and quality of natural resources.

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deliberate policy reforms (in North America and Europe), and institutional change (in the former Soviet Union). FAO estimates that an additional 6.7 billion acres currently in other uses are suitable for crop production, but this land is unevenly distributed, and includes land with relatively low yield potential and significant environmental value.

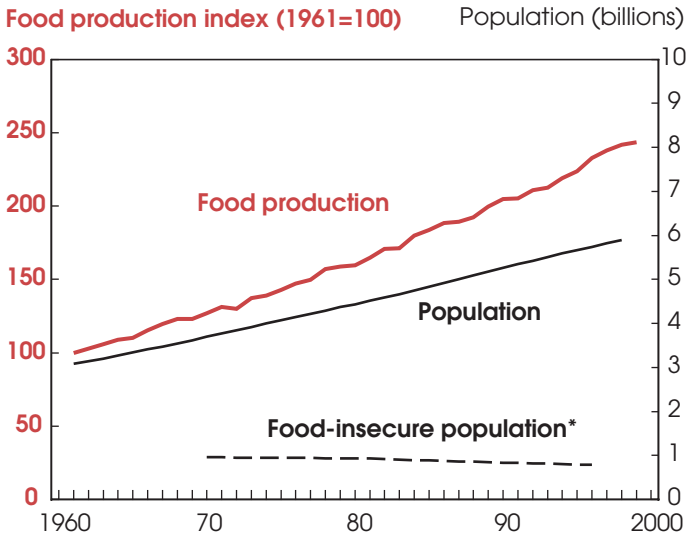
Given economic and environmental constraints on cropland expansion, the bulk of increased crop production in the future will need to come from increased yields on existing cropland. FAO data indicate that world cereal yields rose by about 2.5 percent per year from 1961 to 1990, but growth slowed to 1.1 percent per year in the 1990s. As a result of changes in input use (reflecting low cereal prices), market and infrastructure constraints, and low levels of investment in agricultural research and technology, IFPRI and FAO project that yield growth will slow further to about 0.8 percent per year over the next several decades.

ERS recently examined regional differences in cropland quality using geographic data on land cover, soil, and climate. Among the countries of sub-Saharan Africa, a median of 6 percent of cropland has soils and climate that are of high quality for agricultural production. The median proportion of high-quality cropland was higher in other regions, ranging from 20 percent among Asian countries to 29 percent among high-income countries (mainly countries in North America and Europe, plus Australia and Japan), and 30 percent among the countries of Latin America and the Caribbean.

Land quality changes over time as a result of natural and human-induced processes, but data on these changes are extremely limited. Only one global assessment has been done to date: the Global Land Assessment of Degradation (GLASOD) in 1991, which was coordinated by the International Soil Reference Information Centre for the United Nations Environment Programme. Based on the judgment of over 250 experts around the world, GLASOD estimated that 38 percent of the world's cropland had been degraded to some extent as a result of human activity since World War II (including 65 percent of cropland in Africa, 51 percent in Latin America, 38 percent in Asia, and 25 percent in North America, Europe, and Oceania). GLASOD identified erosion as the principal cause of degradation, affecting 4 billion acres (mostly in Asia and Africa). Loss of soil nutrients was the primary cause of degradation on 336 million acres (mostly in South America and Africa), while salinization affected 190 million acres (mostly in Asia) and 272 million acres were degraded as a result of other processes.

GLASOD did not estimate productivity losses associated with land degradation, but about 37 percent of the total degraded area was estimated to have been lightly degraded, indicating that productivity had been reduced somewhat but could be restored through modifications in farm management. Another 46 percent had been moderately degraded, indicating greater losses in productivity that would require costlier improvements to reverse. The remainder were identified as strongly or extremely degraded, implying losses in productivity that are virtually irreversible.

World Food Production Has Been Increasing Faster Than Population



*Note: Data are available only for 1970-96.
Source: Food and Agriculture Organization.

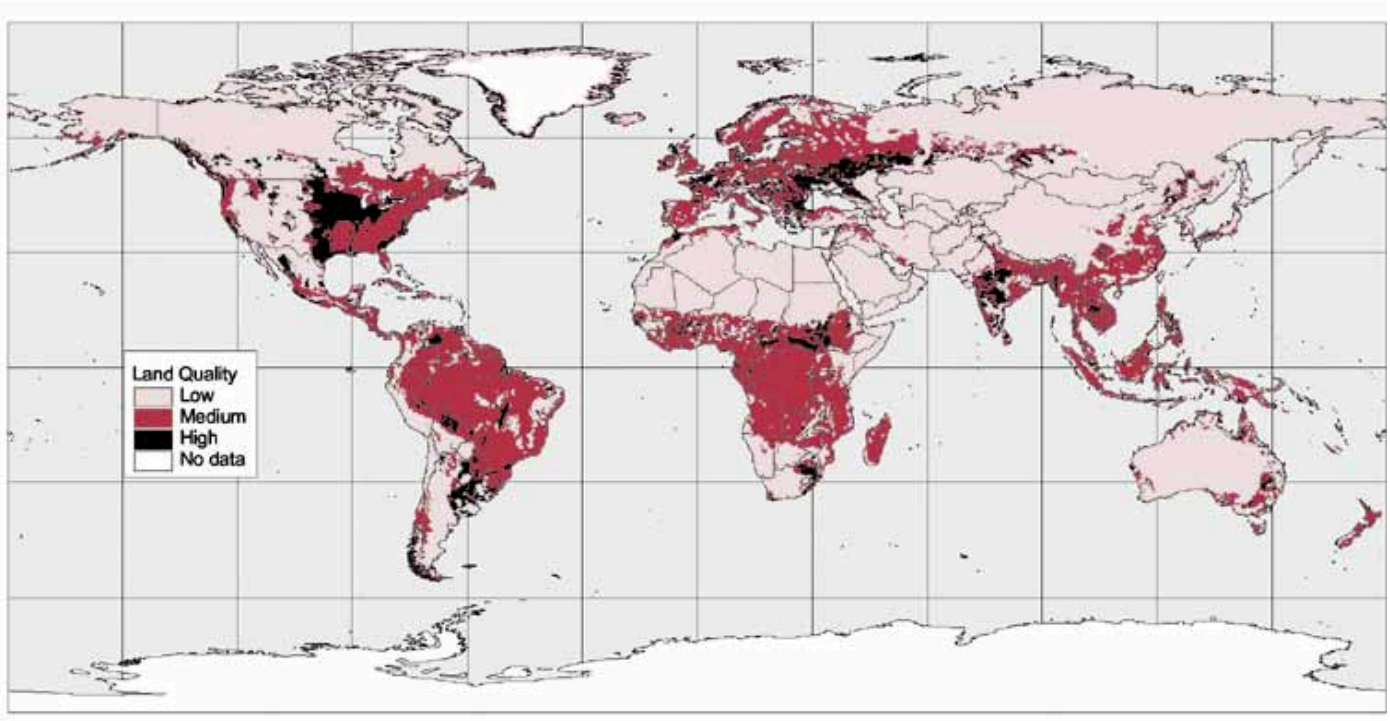
Economic Research Service, USDA

Land Quality Affects Agricultural Productivity

Previous studies have sought to measure land quality's role in explaining differences in agricultural productivity between countries, but have considered only factors such as climate and irrigation because of data constraints. Recent ERS analysis incorporates the role of soil characteristics as well. Holding other factors constant, this analysis finds that the productivity of agricultural labor is generally 20-30 percent higher in countries with good soils and climate than it is in countries with poor soils and climate. The quality of labor (measured by literacy and life expectancy), institutions (measured by the absence of armed conflict), and infrastructure (measured by the extent of roads and agricultural research expenditures) also affected agricultural productivity.

Better indicators of land quality also improve our understanding of the effects of other factors on productivity. In countries with poor soils and climate, basic inputs like fertilizer, water, and institutional stability are more important than they are in countries that are better endowed. Factors such as labor quality, road density, and mechanization appear less constraining for poorly endowed countries than they are for those with better soils and climate. These results are particularly clear in sub-Saharan Africa, but hold true in other regions as well.

Most High-Quality Land is Found in the Northern Hemisphere



Note: Land quality classes are based on the suitability of all soils and climate for agricultural production.
Source: USDA Natural Resources Conservation Service, World Soil Resources Office.

Economic Research Service, USDA

Land Degradation Reduces Crop Yields…

Based on climate and inherent soil properties, scientists from USDA's Natural Resources Conservation Service have estimated water-induced erosion rates that vary widely by crop production area, soil, and region, but range in most cases between 5 and 7 tons per acre per year. Researchers at ERS and Ohio State University reviewed over 300 plot-level experiments on yield losses due to soil erosion from around the world and found that for most crops, soils, and regions, yields declined by 0.01-0.04 percent per ton of soil loss. Combining these erosion rates and yield impacts allows estimates of potential annual yield losses to erosion in the absence of changes in farming practices.

These estimates vary widely by crop and region. Corn yield losses to soil erosion range from an average of 0.2 percent per year in North America to 0.9 percent per year in Latin America. Yield losses are generally lower for sorghum and millet, ranging from 0.1 percent for sorghum in North America to 0.5 percent for millet in Asia. Annual wheat yield losses are below 0.3 percent in all regions except Australia, where they average 0.7 percent. Differences in crop coverage limit comparison of regional totals, but aggregating across regions and crops (using current commodity prices and total production levels as weights) generates an estimated potential erosion-induced loss of 0.3 percent per year in the value of global crop production.

…and Raises Food Security Concerns

Land degradation may affect food security through its impacts on food production as well as on incomes and food prices. Land degradation's impact is difficult to quantify on a global scale, given limited data and complex interlinkages, but preliminary findings are provided by recent ERS analyses of agricultural production and trade.

ERS' food security assessment model projects future food production, trade, and consumption in 67 developing countries. In the baseline analysis (assuming that recent conditions, trends, and policies continue), the model projects that an additional 13 million tons of food will be needed in 2010 to maintain per capita consumption at 1997-99 levels in the 67 countries. (An additional 22 million tons would be needed to raise per capita consumption to the minimum caloric intake requirements estimated by FAO.)

To assess the potential impacts of land degradation on food security, two alternative scenarios were used. The first assumed that cropland area expanded more slowly than in the baseline scenario due to irreversible degradation, while the second assumed that yield growth was reduced by an average of 0.3 percent per year due to erosion. The amount of additional food required to maintain per capita consumption at 1997-99 levels in 2010

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increased by 69 percent in the reduced-area-growth scenario and by 85 percent in the reduced-yield-growth scenario. (The amount of additional food needed to raise consumption to minimum caloric requirements increased by 30 percent in the first scenario and by 34 percent in the second.) In each case, the food gaps increased most sharply in sub-Saharan Africa.

These estimates indicate the potential for increased food security concerns as a result of land degradation. Actual impacts will be moderated by the actions farmers take to avoid, reduce, or reverse land degradation and its impacts.

Farmers Have Incentives To Address Land Degradation

In addressing land degradation, as in all choices they make, farmers have incentives to consider costs and benefits that affect them directly. Careful understanding of these costs and benefits is thus critical if we are to better understand the likelihood that resource degradation will occur, the likely economic and environmental consequences if degradation does occur, and the various ways in which these consequences can be mitigated or avoided.

Farming practices that degrade the land may generate declining net returns over time, while practices that conserve the land and sustain net returns may require costly initial investments. A comparison of alternatives is complicated by the fact that returns received in the future are generally worth less than the same nominal amount received today, and must thus be appropriately discounted.

Such a tradeoff between short-term and long-term net returns introduces several critical factors into farmers' choices. Perhaps most basically, in order to benefit from a conservation practice, farmers must expect to farm a particular plot of land long enough to recover their costs. Farmers who rent are thus less likely than owner-operators to adopt conservation practices that require a substantial initial investment, while renters and owner-operators are equally likely to adopt conservation practices that cover investment costs quickly.

Farmers might also be unable to adopt a beneficial conservation practice if they are unable to afford the initial investment. This might be the case because of poverty, for example, or credit constraints. Even with sufficient cash reserves or credit, farmers might lack the information needed to compare practices, particularly when market or environmental conditions are highly uncertain.

Data remain inadequate to measure the effect of these factors on a global or regional scale, but ERS analysis of evidence from the U.S. confirms that optimal conservation strategies are sensitive to resource conditions and farmers' planning horizons. When farmers choose practices to maximize net returns over the long term, yield losses to land degradation will typically be lower than those estimated in agronomic studies, which hold farmers' choices fixed. On selected soils in the North Central U.S., for example, yield losses under practices that maximize longrun net returns are generally less than 0.1 percent per year.

These losses are consistent with the lower range of previous estimates. This does not mean that degradation-induced yield losses are unimportant—just that they have historically been masked by increases in input use and improvements in technology and efficiency. Problems do exist in some areas, especially where resources are fragile and markets function poorly. Given projections that yield growth is slowing, yield losses to land degradation are likely to become more of a concern in the future.

Policy measures to reduce land degradation include strengthening tenure systems, investing in infrastructure, and improving access to credit. In addition to efforts to improve market performance in general, it may also be necessary in some circumstances to offer direct payments to enhance farmers' incentives to adopt conservation practices. Such payments are well established in conservation programs in the U.S. and in many other countries, but require careful attention to the timing and magnitude of payments in order to sustain incentives over time. Such approaches may also help achieve the broader agricultural, environmental, and food security objectives of the World Food Summit, the United Nations Convention to Combat Desertification, and other multilateral initiatives. AO

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For further information:

"Resource Quality, Agricultural Productivity, and Food Security in Developing Countries," by Keith Wiebe and Abebayehu Tegene, in *Food Security Assessment*, GFA-12, USDA Economic Research Service, December 2000, www.ers.usda.gov/publications/gfa12/

"World Soil Resources," Online Soil Education Series, USDA, Natural Resources Conservation Service, www.nrcs.usda.gov/technical/worldsoils/

Who Will Be Fed in the 21st Century? Challenges for Science and Policy, edited by Keith Wiebe, Nicole Ballenger, and Per Pinstrup-Andersen, Washington, DC: International Food Policy Research Institute, Economic Research Service, and American Agricultural Economics Association, 2001, www.ifpri.org/pubs/jhu/fed21century.htm

"The State of Food Insecurity in the World 2001," Food and Agriculture Organization of the United Nations, Rome, 2001, www.fao.org/docrep/003/y1500e/y1500e00.htm

Analysis Comparison 2002 Farm Bill

No time to read the Farm Bill cover to cover?

A side-by-side comparison of old and new farm legislation is available on USDA's Economic Research Service web site.

On the special ERS farm bill web page:

- Side-by-side comparison of the 2002 Farm Bill with 1996-2001 farm legislation, title by title
- Economic implications of selected Farm Bill provisions
- Glossary of farm policy terms
- Links to ERS background research
- Updating of the site as new analysis proceeds

A summarized, substantive resource on the Farm Security and Rural Investment Act of 2002

Access this time-saving reference at:
www.ers.usda.gov/features/farmbill

Visit the USDA web site for a gateway to further information on the Farm Bill and on implementation across USDA agencies, including a summary of the bill's highlights.
www.usda.gov/farmbill

Statistical Indicators

Summary Data

Table 1—Key Statistical Indicators of the Food & Fiber Sector

	Annual			2001			2002			
	2001	2002	2003	II	III	IV	I	II	III	IV
Prices received by farmers (1990-92=100)	102	99	--	107	108	94	--	--	--	--
Livestock & products	106	95	--	111	111	100	--	--	--	--
Crops	99	103	--	103	105	89	--	--	--	--
Prices paid by farmers (1990-92=100)										
Production items	120	118	--	120	120	118	--	--	--	--
Commodities and services, interest, taxes, and wage rates (PPITW)	123	123	--	124	124	123	--	--	--	--
Cash receipts ($ bil.)	194	--	--	46	52	60	--	--	--	--
Livestock	109	--	--	27	28	27	--	--	--	--
Crops	97	--	--	19	24	32	--	--	--	--
Market basket (1982-84=100)										
Retail cost	177	--	--	177	178	179	181	--	--	--
Farm value	106	--	--	106	110	108	107	--	--	--
Spread	215	--	--	215	215	217	220	--	--	--
Farm value/retail cost (%)	21	--	--	21	22	21	21	--	--	--
Retail prices (1982-84=100)										
All food	173	178	180	173	174	175	177	177	178	178
At home	173	178	180	173	174	175	177	177	178	178
Away from home	174	178	182	173	175	176	177	177	179	180
Agricultural exports ($ bil.)[1]	52.8	54.5	--	12.5	12.3	15.2	13.8	12.9	12.6	--
Agricultural imports ($ bil.)[1]	39.0	40.0	--	10.0	9.4	10.0	10.1	9.6	10.3	--
Commercial production										
Red meat (mil. lb.)	45,663	46,309	45,320	11,148	11,371	12,048	11,259	11,473	11,772	11,805
Poultry (mil. lb.)	37,343	38,327	39,175	9,501	9,406	9,444	9,352	9,780	9,600	9,595
Eggs (mil. doz.)	7,152	7,183	7,250	1,778	1,788	1,829	1,768	1,785	1,795	1,835
Milk (bil. lb.)	165.3	169.7	172.4	42.7	40.6	40.8	42.3	43.9	41.7	41.9
Consumption, per capita										
Red meat and poultry (lb.)	213.3	216.7	213.3	52.5	53.7	54.9	52.1	54.7	54.6	55.2
Corn beginning stocks (mil. bu.)[2]	1,899.1	--	--	6,043.0	3,924.0	1,899.1	8,264.7	--	--	--
Corn use (mil. bu.)[2]	9,795.0	--	--	2,122.2	2,026.3	3,143.7	2,470.2	--	--	--
Prices[3]										
Choice steers--Neb. Direct ($/cwt)	72.71	67-70	72-79	76.41	70.19	65.13	70.19	66-68	63-67	70-76
Barrows and gilts--IA, So. MN ($/cwt)	45.81	35-36	35-38	52.05	51.05	37.30	39.43	34-36	36-38	30-32
Broilers--12-city (cents/lb.)	59.10	56-58	57-61	59.20	61.10	58.50	56.00	54-56	57-61	56-60
Eggs--NY gr. A large (cents/doz.)	67.20	63-66	64-69	63.30	61.40	68.20	69.10	56-58	58-62	70-76
Milk--all at plant ($/cwt)	14.97	12.45-	12.25-13.25	15.43	16.60	14.50	13.07	11.90-12.20	12.00-12.60	13.00-13.90
Wheat--KC HRW ordinary ($/bu.)	3.33	--	--	3.41	3.18	3.30	3.26	--	--	--
Corn--Chicago ($/bu.)	2.03	--	--	1.96	2.10	2.01	2.06	--	--	--
Soybeans--Chicago ($/bu.)	4.58	--	--	4.48	4.89	4.45	--	--	--	--
Cotton--avg. spot 41-34 (cents/lb)	39.68	--	--	39.86	35.58	30.62	32.32	--	--	--
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Farm real estate values[4]										
Nominal ($ per acre)	713	740	798	844	887	926	974	1,020	1,080	1,130
Real (1996 $)	795	806	848	879	904	926	955	988	1,031	1,057
U.S. civilian employment (mil.)[5]	128.1	129.2	131.1	132.3	133.9	136.3	137.7	139.4	140.9	--
Food and fiber (mil.)	23.1	23.5	24.1	24.5	24.2	24.1	24.2	24.4	24.1	--
Farm sector (mil.)	1.9	1.8	1.9	2.0	2.0	1.9	1.8	1.8	1.7	--
U.S. gross domestic product ($ bil.)	6,318.9	6,642.3	7,054.3	7,400.5	7,813.2	8,318.4	8,781.5	9,268.6	9,872.9	--
Food and fiber--net value added ($ bil.)	924.8	957.6	1,026.6	1,048.2	1,078.9	1,101.9	1,132.7	1,180.6	1,264.5	--
Farm sector--net value added ($ bil.)[6]	75.5	70.2	77.8	73.5	85.7	82.6	74.0	66.9	82.0	--

-- = Not available. Annual and quarterly data for the most recent year contain forecasts. 1. Annual data based on Oct.-Sep. fiscal years ending year indicated. 2. Sep.-Nov. first quarter; Dec.-Feb. second quarter; Mar.-May third quarter; Jun.-Aug. fourth quarter; Sep.-Aug. annual. Use includes exports and domestic disappearance. 3. Simple averages, Jan.-Dec. 4. As of January 1. 5. Civilian labor force taken from "Monthly Lab Review," Table 18--Annual Data: Employment Status of the Population, Bureau of Labor Statistics, U.S. Department of Labor. 6. The value-added data presented here are consistent with accounting conventions of the National Income and Product Accounts, U.S. Department of Commerce

U.S. & Foreign Economic Data

Table 2—U.S. Gross Domestic Product & Related Data

	Annual			2000		2001				2002
	1999	2000	2001	III	IV	I	II	III	IV	I
	Billions of current dollars (quarterly data seasonally adjusted at annual rates)									
Gross Domestic Product	9,268.6	9,872.9	10,208.1	9,937.5	10,027.9	10,141.7	10,202.6	10,224.9	10,263.3	10,428.8
Gross National Product	9,261.8	9,860.8	10,202.8	9,919.4	10,032.1	10,131.3	10,190.9	10,213.8	10,275.3	10,403.7
Personal consumption expenditures	6,250.2	6,728.4	7,064.5	6,785.5	6,871.4	6,977.6	7,044.6	7,057.6	7,178.2	7,248.0
Durable goods	760.9	819.6	858.3	825.4	818.7	838.1	844.7	840.6	909.8	877.3
Nondurable goods	1,831.3	1,989.6	2,055.1	2,012.4	2,025.1	2,047.1	2,062.3	2,057.5	2,053.5	2,096.2
Food	899.8	957.5	991.6	967.2	971.4	982.0	987.0	993.5	1,003.9	1,028.3
Clothing and shoes	300.9	319.1	322.2	321.6	323.5	325.7	322.4	318.5	322.1	329.9
Services	3,658.0	3,919.2	4,151.1	3,947.7	4,027.5	4,092.4	4,137.6	4,159.4	4,214.9	4,274.5
Gross private domestic investment	1,636.7	1,767.5	1,633.9	1,788.4	1,780.3	1,722.8	1,669.9	1,624.8	1,518.2	1,592.4
Fixed investment	1,578.2	1,718.1	1,692.4	1,735.9	1,741.6	1,748.3	1,706.5	1,682.6	1,632.1	1,617.0
Change in private inventories	58.6	49.4	-58.4	85.5	38.7	-25.5	-36.6	-57.8	-113.9	-24.6
Net exports of goods and services	-250.9	-364.0	-329.8	-380.6	-390.6	-363.8	-347.4	-294.4	-313.5	-337.6
Government consumption expenditures and gross investment	1,632.5	1,741.0	1,839.5	1,744.2	1,766.8	1,805.2	1,835.4	1,836.9	1,880.4	1,926.0
	Billions of 1996 dollars (quarterly data seasonally adjusted at annual rates) [1]									
Gross Domestic Product	8,856.5	9,224.0	9,333.8	9,260.1	9,303.9	9,334.5	9,341.7	9,310.4	9,348.6	9,476.3
Gross National Product	8,853.0	9,216.4	9,333.6	9,247.2	9,311.7	9,329.1	9,335.5	9,304.9	9,364.7	9,458.7
Personal consumption expenditures	5,968.4	6,257.8	6,450.3	6,292.1	6,341.1	6,388.5	6,428.4	6,443.9	6,540.3	6,592.1
Durable goods	817.8	895.5	955.6	904.1	899.4	922.4	938.1	940.2	1,021.7	996.1
Nondurable goods	1,766.4	1,849.9	1,883.3	1,864.1	1,866.8	1,878.0	1,879.4	1,882.0	1,893.6	1,931.9
Food	847.8	881.3	886.2	886.2	886.4	887.3	886.1	883.8	887.6	903.9
Clothing and shoes	312.1	335.3	345.2	339.8	339.9	342.7	344.1	344.7	349.3	359.7
Services	3,393.2	3,527.7	3,633.4	3,540.2	3,588.8	3,605.1	3,629.8	3,640.4	3,658.2	3,691.1
Gross private domestic investment	1,660.1	1,772.9	1,630.8	1,788.8	1,778.3	1,721.0	1,666.2	1,620.5	1,515.5	1,595.3
Fixed investment	1,595.4	1,716.2	1,682.6	1,730.1	1,732.1	1,740.3	1,696.4	1,671.6	1,621.9	1,612.6
Change in private inventories	62.1	50.6	-61.7	51.7	42.8	-27.1	-38.3	-61.9	-119.3	-25.7
Net exports of goods and services	-316.9	-399.1	-408.7	-411.2	-421.1	-404.5	-406.7	-411.0	-412.7	-443.7
Government consumption expenditures and gross investment	1,531.8	1,572.6	1,628.6	1,570.0	1,582.8	1,603.4	1,623.0	1,624.1	1,663.9	1,691.0
GDP implicit price deflator (% change)	1.4	2.3	2.2	1.9	1.8	3.3	2.1	2.2	-0.1	0.8
Disposable personal income ($ bil.)	6,618.0	7,031.0	7,417.3	7,081.3	7,189.8	7,295.0	7,363.2	7,576.4	7,434.5	7,633.0
Disposable pers. income (1996 $ bil.)	6,320.0	6,539.2	6,772.4	6,566.5	6,634.9	6,679.0	6,719.2	6,917.5	6,773.8	6,944.3
Per capita disposable pers. income ($)	23,708	24,889	25,943	25,029	25,331	25,634	25,798	26,457	25,880	26,499
Per capita disp. pers. income (1996 $)	22,641	23,148	23,687	23,209	23,376	23,470	23,541	24,157	23,580	24,108
U.S. resident population plus Armed Forces overseas (mil.)[2]	272.9	275.4	--	275.6	276.3	--	--	--	--	--
Civilian population (mil.) [2]	271.5	273.9	--	274.2	274.9	--	--	--	--	--

	Annual			2001				2002		
	1999	2000	2001	Mar	Oct	Nov	Dec	Jan	Feb	Mar
	Monthly data seasonally adjusted									
Total industrial production (1992=100)	144.7	151.6	144.8	147.9	142.1	142.0	141.6	142.5	142.7	143.9
Leading economic indicators (1996=100)	108.8	109.9	109.5	108.7	109.3	110.2	111.4	112.0	112.0	112.1
Civilian employment (mil. persons)	133.5	135.2	135.1	135.8	134.6	134.3	134.1	133.5	134.3	133.9
Civilian unemployment rate (%)	4.2	4.0	4.8	4.3	5.4	5.6	5.8	5.6	5.5	5.7
Personal income ($ bil. annual rate)	7,777.3	8,319.2	8,723.5	8,676.2	8,759.6	8,757.2	8,784.8	8,830.2	8,883.4	8,920.1
Money stock-M2 (daily avg.) ($ bil.)[3]	4,655.0	4,942.3	5,463.2	5,073.9	5,377.6	5,421.3	5,463.2	5,474.0	5,504.5	5,498.7
Three-month Treasury bill rate (%)	4.66	5.85	3.45	4.50	2.22	1.93	1.72	1.66	1.73	1.81
AAA corporate bond yield (Moody's) (%)	7.04	7.62	7.08	6.98	7.03	6.97	6.76	6.55	6.51	6.81
Total housing starts (1,000) [4]	1,640.9	1,568.7	1,602.7	1,592	1,518	1,616	1,602	1,713	1,785	1,646
Business inventory/sales ratio[5 6]	1.41	1.41	1.42	1.44	1.39	1.39	1.39	1.38	1.39	--
Retail & food services sales ($ bil.)[6 7]	3,149.2	3,388.8	3,504.2	285.7	304.7	295.9	296.6	296.1	296.5	296.6
Food and beverage stores ($ bil.)	441.4	465.3	481.1	39.0	40.5	40.7	40.8	40.9	40.2	40.1
Clothing & accessory stores ($ bil.)	159.7	168.5	169.7	14.2	14.0	14.0	14.4	14.7	14.7	14.6
Food services & drinking places ($ bil.)	286.3	306.1	321.0	26.5	26.7	27.0	28.4	27.6	28.1	28.1

-- = Not available. 1. In October 1999, 1996 dollars replaced 1992 dollars. 2. Population estimates based on 1990 census. 3. Annual data as of December of year listed. 4. Private, including farm. 5. Manufacturing and trade. 6. In July 2001, all numbers were revised due to a changeover from the Standard Industrial Classification System to the North American Industry Classification System. 7. Annual total.

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Table 3—World Economic Growth

	Calendar year									
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	Real GDP, annual percent change									
World	3.1	2.8	3.5	3.4	1.9	2.8	3.9	1.4	1.8	3.3
less U.S.	2.7	2.8	3.4	3.0	1.0	2.3	3.8	1.4	1.4	3.3
Developed economies	2.7	2.3	3.1	3.0	2.1	2.6	3.4	1.1	1.4	2.6
less U.S.	2.1	2.2	2.8	2.3	1.0	1.9	3.0	1.0	0.6	2.4
United States	4.0	2.7	3.6	4.4	4.3	4.1	4.1	1.2	2.7	3.1
Canada	4.7	2.7	1.5	4.4	3.3	4.6	4.3	1.5	2.6	3.1
Japan	0.6	1.5	5.1	1.6	-2.5	0.2	2.2	-0.4	-1.7	1.0
Australia	4.5	4.5	3.8	4.7	4.5	4.4	2.0	2.4	3.2	3.7
European Union	2.7	2.5	1.6	2.5	2.8	2.6	3.5	1.6	1.5	3.0
Transition economies	-8.1	-1.3	-0.8	1.4	-1.4	3.4	6.2	4.5	3.5	4.0
Eastern Europe	3.9	5.6	4.0	2.7	2.6	2.4	3.8	2.7	2.5	4.4
Poland	5.2	7.0	6.0	6.8	4.8	4.1	4.2	1.1	1.1	4.1
Former Soviet Union	-14.1	-5.4	-4.0	0.5	-4.4	4.2	8.1	5.9	4.1	3.7
Russia	-12.6	-4.1	-3.4	0.9	-4.9	5.0	8.3	5.1	3.8	3.6
Developing economies	6.3	5.3	5.8	5.3	1.2	3.4	5.7	2.3	3.2	5.7
Asia	8.8	8.3	7.4	5.8	0.4	6.3	7.2	3.7	4.7	6.3
East Asia	9.7	8.7	7.7	7.0	1.9	7.4	8.3	4.1	5.2	6.6
China	12.8	10.5	9.6	8.8	7.8	7.1	8.0	7.5	7.1	7.9
Taiwan	7.1	6.4	6.1	6.7	4.6	5.4	5.9	-1.9	1.9	4.0
Korea	8.2	8.9	6.8	5.0	-6.7	10.7	9.5	3.0	4.7	5.6
Southeast Asia	8.3	8.3	7.3	4.0	-7.5	3.5	6.1	1.8	3.1	6.0
Indonesia	7.5	8.2	7.8	4.7	-13.2	0.7	4.8	3.3	3.2	6.8
Malaysia	9.2	9.8	10.0	7.3	-7.4	5.8	8.4	0.5	3.0	5.8
Philippines	4.4	4.7	5.8	5.2	-0.8	3.2	4.0	3.4	3.8	4.1
Thailand	9.0	8.9	5.9	-1.7	-10.2	4.2	4.7	1.8	2.6	5.0
South Asia	6.6	7.1	6.3	4.2	6.1	6.1	4.6	4.6	5.2	5.7
India	7.3	7.7	7.0	4.6	6.8	6.5	4.8	4.9	5.5	5.8
Pakistan	3.9	5.1	3.9	1.0	2.5	4.0	3.4	2.6	3.2	5.0
Latin America	5.3	1.4	3.7	5.2	1.8	0.0	3.8	0.4	0.4	5.4
Mexico	4.4	-6.2	5.2	6.8	4.9	3.5	6.9	-0.3	1.5	5.8
Caribbean/Central	4.1	3.8	3.6	6.4	6.8	6.9	4.9	1.5	2.6	6.1
South America	5.6	3.1	3.3	4.8	1.0	-1.1	3.0	0.6	0.0	5.2
Argentina	5.8	-2.8	5.5	8.1	3.9	-3.2	-0.4	-4.1	-9.1	5.3
Brazil	5.9	4.2	2.8	3.2	-0.1	0.8	3.9	1.5	1.9	5.4
Colombia	5.8	5.2	2.1	3.4	0.5	-4.3	2.2	1.5	2.5	5.9
Venezuela	-2.3	3.7	-0.5	6.5	-0.7	-6.1	3.2	4.9	2.7	3.0
Middle East	-0.3	4.4	4.7	4.4	2.7	-0.8	5.0	-0.9	2.3	4.4
Israel	6.9	7.0	5.1	3.2	2.6	2.2	5.9	-0.6	3.2	4.8
Saudi Arabia	0.5	0.5	1.4	1.9	2.3	-1.1	3.5	3.0	2.5	2.3
Turkey	-5.5	7.2	7.0	7.5	3.1	-4.7	7.2	-7.1	1.2	6.7
Africa	3.2	2.9	5.2	2.8	3.1	2.6	3.8	3.5	3.2	3.7
North Africa	3.9	1.5	6.5	2.6	5.6	3.9	4.0	4.4	4.1	3.8
Egypt	3.9	4.7	5.0	5.5	5.6	6.0	5.2	3.3	4.2	4.3
Sub-Sahara	2.6	3.9	4.3	3.0	1.3	1.7	3.5	2.7	2.6	3.6
South Africa	3.2	3.1	4.2	2.5	0.6	1.2	3.4	2.2	2.0	3.5
	Consumer prices, annual percent change									
Developed economies	3.1	2.6	2.6	2.4	2.1	1.5	1.4	2.3	2.4	1.7
Transition economies	635.8	274.2	133.8	42.5	27.3	21.8	43.9	20.0	16.4	10.7
Developing economies	49.2	55.3	23.2	15.4	9.9	10.5	6.8	6.0	5.9	5.1
Asia	10.8	16.0	13.2	8.3	4.8	7.7	2.5	1.9	2.8	3.3
Latin America	194.6	200.3	36.0	21.2	12.9	9.9	8.8	8.1	6.2	4.9
Middle East	29.4	37.3	39.1	29.6	27.7	27.6	23.2	19.2	18.9	14.5
Africa	39.0	54.7	35.3	30.2	14.2	10.8	11.5	13.6	12.6	8.0

The last 3 years are either estimates or forecasts. Sources: Oxford Economic Forecasting; International Financial Statistics, IMF.

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Farm Prices

Table 4—Indexes of Prices Received & Paid by Farmers, U.S. Average

	Annual			2001			2002			
	2000	2001	2002	Apr	Nov	Dec	Jan	Feb	Mar	Apr
					1990-92=100					
Prices received										
All farm products	96	102	99	106	93	95	95	99	105	95
All crops	96	99	103	103	88	95	93	101	117	100
Food grains	85	91	85	92	88	91	88	84	85	83
Feed grains and hay	86	91	91	90	86	92	90	91	91	90
Cotton	82	65	49	70	49	53	48	47	49	50
Tobacco	107	107	105	82	114	113	111	108	95	--
Oil-bearing crops	85	80	78	75	77	78	76	76	79	79
Fruit and nuts, all	99	107	87	104	108	92	84	85	92	86
Commercial vegetables	121	127	189	138	101	149	162	191	271	130
Potatoes and dry beans	93	98	135	92	106	116	117	132	145	147
Livestock and products	97	106	95	109	99	96	97	97	95	90
Meat animals	94	97	91	103	86	85	90	93	92	87
Dairy products	94	115	99	112	110	103	103	100	97	96
Poultry and eggs	106	116	100	116	117	109	109	100	101	91
Prices paid										
Commodities and services, interest, taxes, and wage rates (PPITW)	120	124	123	124	122	122	122	122	123	123
Production items	116	120	118	120	117	117	117	117	118	118
Feed	102	109	108	106	108	108	107	106	109	109
Livestock and poultry	110	111	106	113	107	110	109	110	106	101
Seeds	124	132	137	134	134	134	134	134	134	144
Fertilizer	110	123	106	135	107	104	105	104	107	107
Agricultural chemicals	120	120	119	121	123	122	122	121	119	119
Fuels	134	121	103	127	98	77	82	84	112	114
Supplies and repairs	124	128	129	127	129	129	128	128	129	129
Autos and trucks	119	118	117	119	119	119	118	117	116	116
Farm machinery	139	144	146	143	141	141	141	141	147	147
Building material	121	121	121	121	121	121	121	121	121	121
Farm services	119	121	120	120	120	120	120	120	120	120
Rent	110	117	120	117	116	117	120	120	120	120
Interest payable per acre on farm real estate debt	110	117	120	114	116	114	109	109	109	109
Taxes payable per acre on farm real estate	123	124	126	124	123	124	126	126	126	126
Wage rates (seasonally adjusted)	140	146	155	144	148	148	148	155	155	155
Prod. items, interest, taxes & wage rates (PITW)	118	122	121	122	120	119	120	120	121	121
Ratio, prices received to prices paid (%)*	81	82	80	85	76	78	78	81	85	77
Prices received (1910-14=100)	612	648	626	672	591	605	605	628	670	602
Prices paid, etc. (1910-14=100)	1,594	1,646	1,637	1,649	1,627	1,618	1,619	1,624	1,641	1,642
Parity ratio (1910-14=100) (%)*	38	39	38	41	36	37	37	39	41	37

Values for the two most recent months are revised or preliminary. *Ratio of index of prices received for all farm products to index of prices paid for commodities and services, interest, taxes, and wage rates. Ratio uses the most recent prices paid index.

Data for this table are taken from the publication *Agricultural Prices*, which is produced monthly by USDA's National Agricultural Statistics Service (NASS) and is available at http://usda.mannlib.cornell.edu/reports/nassr/price/pap-bb/. For historical data or for categories not listed here, call the NASS Information Hotline at 1-800-727-9540, or access the NASS Home Page at http://www.usda.gov/nass.

Table 5—Prices Received by Farmers, U.S. Average

	Annual[1]			2001			2002			
	1998	1999	2000	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Crops										
All wheat ($/bu.)	2.65	2.48	2.65	2.86	2.88	2.89	2.87	2.83	2.87	2.80
Rice, rough ($/cwt)	8.89	5.93	5.75	5.68	4.08	4.07	3.94	4.10	3.97	3.95
Corn ($/bu.)	1.94	1.82	1.85	1.89	1.85	1.98	1.97	1.93	1.94	1.86
Sorghum ($/cwt)	2.97	2.80	3.15	3.04	3.29	3.26	3.34	3.26	3.22	3.11
All hay, baled ($/ton)	84.60	76.90	83.00	99.00	97.10	93.70	93.00	90.40	91.40	99.90
Soybeans ($/bu.)	4.93	4.63	4.75	4.22	4.16	4.20	4.22	4.21	4.38	4.38
Cotton, upland (¢/lb.)	60.20	45.00	56.00	42.60	29.50	32.20	28.90	28.70	29.90	30.30
Potatoes ($/cwt)	5.56	5.77	4.95	5.47	5.97	6.85	6.90	7.60	8.50	8.61
Lettuce ($/cwt)[2]	16.10	13.30	17.50	21.60	11.20	28.60	26.20	44.10	86.40	19.30
Tomatoes, fresh ($/cwt)[2]	35.20	25.80	31.40	19.00	28.90	25.00	40.50	26.60	38.50	30.20
Onions ($/cwt)	13.80	9.78	11.40	12.80	9.91	9.42	9.48	8.27	6.92	16.00
Beans, dry edible ($/cwt)	19.00	16.40	15.30	15.60	22.10	21.40	21.10	26.20	26.60	26.70
Apples for fresh use (¢/lb.)	17.30	21.30	17.90	15.70	23.30	22.40	21.70	21.40	21.00	21.50
Pears for fresh use ($/ton)	291.00	294.00	264.00	337.00	350.00	342.00	282.00	276.00	267.00	267.00
Oranges, all uses ($/box)[3]	4.29	5.54	--	4.71	3.19	3.44	3.89	4.42	4.88	4.30
Grapefruit, all uses ($/box)[3]	2.00	3.27	--	1.41	3.06	2.30	1.98	1.70	1.23	1.02
Livestock										
Cattle, all beef ($/cwt)	59.60	63.40	68.60	75.40	63.90	64.60	67.10	69.90	70.70	67.80
Calves ($/cwt)	78.80	87.70	104.00	112.00	96.40	100.00	102.00	105.00	104.00	102.00
Hogs, all ($/cwt)	34.40	30.30	42.30	47.80	35.00	33.30	37.70	38.50	36.00	30.50
Lambs ($/cwt)	72.30	74.50	79.40	84.30	54.10	61.70	65.50	67.40	66.30	--
All milk, sold to plants ($/cwt)	15.46	14.38	12.40	14.60	14.40	13.40	13.40	13.10	12.70	12.50
Milk, manuf. grade ($/cwt)	14.24	12.84	10.54	12.80	12.40	12.50	12.40	12.00	11.30	11.20
Broilers, live (¢/lb.)	39.30	37.10	33.60	39.00	39.00	37.00	37.00	34.00	32.00	30.00
Eggs, all (¢/doz.)[4]	66.80	62.20	61.80	65.00	65.80	59.00	62.30	55.90	68.50	51.90
Turkeys (¢/lb.)	38.00	40.80	40.70	37.60	44.30	38.50	34.10	34.10	32.90	32.60

-- = Not available.

Values for the two most recent months are revised or preliminary. 1. Season-average price by crop year for crops. Calendar year average of monthly prices for livestock. 2. Excludes Hawaii. 3. Equivalent on-tree returns. 4. Average of all eggs sold by producers including hatching eggs and eggs sold at retail.

Data for this table are taken from the publication *Agricultural Prices*, which is produced monthly by USDA's National Agricultural Statistics Service (NASS) and is available at http://usda.mannlib.cornell.edu/reports/nassr/price/pap-bb/. For historical data or for categories not listed here, call the NASS Information Hotline at 1-800-727-9540, or access the NASS Home Page at http://www.usda.gov/nass.

Producer & Consumer Prices

Table 6—Consumer Price Indexes for All Urban Consumers, U.S. Average (not seasonally adjusted)

	Annual			2001			2002			
	1999	2000	2001	Apr	Nov	Dec	Jan	Feb	Mar	Apr
					1982-84=100					
Consumer Price Index, all items	166.6	172.1	177.1	176.9	177.4	176.7	177.1	177.8	178.8	179.8
CPI, all items less food	167.0	172.9	177.8	177.8	177.8	177.0	177.4	178.2	179.2	180.4
All food	164.1	167.8	173.1	171.9	174.6	174.7	175.8	175.9	176.1	176.2
Food away from home	165.1	169.0	173.9	172.7	175.8	176.0	176.4	177.0	177.1	177.2
Food at home	164.2	167.9	173.4	172.2	174.7	174.7	176.2	176.0	176.3	176.4
Meats [1]	142.3	150.7	159.3	158.0	161.2	160.0	160.0	159.9	161.3	160.6
Beef and veal	139.2	148.1	160.5	161.5	161.0	160.2	159.7	160.7	161.8	162.3
Pork	145.9	156.5	162.4	157.9	164.7	163.0	163.7	163.3	163.2	161.3
Poultry	157.9	159.8	164.9	163.1	166.4	167.7	166.8	167.8	168.0	166.9
Fish and seafood	185.3	190.4	191.1	192.4	189.2	189.4	189.2	186.0	185.6	189.2
Eggs	128.1	131.9	136.4	144.7	138.4	133.5	138.4	138.6	141.0	138.4
Dairy and related products[2]	159.6	160.7	167.1	163.4	171.2	170.8	169.9	170.1	169.4	168.7
Fats and oils[3]	148.3	147.4	155.7	151.5	155.6	156.9	158.3	157.2	156.4	156.5
Fresh fruits	266.3	258.3	265.1	269.4	268.6	270.7	276.4	263.5	265.5	266.9
Fresh vegetables	209.3	219.4	230.6	232.6	228.6	230.4	251.6	258.1	265.3	255.9
Potatoes	193.1	196.3	202.3	187.0	203.4	205.2	213.4	225.7	230.2	244.1
Cereals and bakery products	185.0	188.3	193.8	192.5	194.9	195.3	196.7	197.6	197.0	198.1
Sugar and sweets	152.3	154.0	155.7	154.0	154.9	156.1	158.4	158.5	157.2	159.6
Nonalcoholic beverages[4]	134.3	137.8	139.2	138.9	139.5	138.5	139.5	140.0	140.1	140.0
Apparel										
Footwear	125.7	123.8	123.0	124.9	123.7	120.6	117.1	119.5	123.5	124.6
Tobacco and smoking products	355.8	394.9	425.2	424.2	446.7	431.7	432.8	449.3	433.4	461.4
Alcoholic beverages	169.7	174.7	179.3	178.1	181.2	180.9	181.8	182.6	182.5	182.9

1. Beef, veal, lamb, pork, and processed meat. 2. Included butter through December 1997. 3. Includes butter as of January 1998.
4. Includes fruit juices as of January 1998.
This table is compiled with data provided by the Bureau of Labor Statistics (BLS). BLS operates a website at http://www.bls.gov and a Consumer Prices Information Hotline at (202) 691-7000.

Table 7—Producer Price Indexes, U.S. Average (not seasonally adjusted)

	Annual			2001			2002			
	1999	2000	2001	Apr	Nov	Dec	Jan	Feb	Mar	Apr
					1982=100					
All commodities	125.5	132.7	134.2	136.4	129.8	128.1	128.5	128.6	129.9	131.0
Finished goods[1]	133.0	138.0	140.7	141.8	138.3	137.4	137.5	137.7	138.9	139.0
All foods [2]	132.2	133.0	137.3	137.7	136.3	136.0	136.7	138.1	139.1	134.2
Consumer foods	135.1	137.2	141.3	141.8	140.7	140.4	141.1	142.7	143.7	139.2
Fresh fruits and melons	103.6	91.4	97.7	96.0	103.4	116.9	107.0	92.8	89.7	84.0
Fresh and dry vegetables	118.0	126.7	124.7	129.0	107.2	120.4	144.8	176.9	217.0	116.1
Dried and dehydrated fruits	121.2	122.9	118.5	118.0	118.8	119.2	120.1	120.1	119.6	118.9
Canned fruits and juices	137.8	140.0	143.6	143.6	143.3	143.7	143.3	143.8	143.5	143.4
Frozen fruits, juices and ades	123.0	120.9	114.1	115.4	113.3	117.8	117.5	119.7	118.9	115.4
Fresh vegetables except potatoes	117.7	135.0	135.2	145.6	105.9	121.0	146.1	188.7	242.5	101.7
Canned vegetables and juices	120.9	121.2	123.8	121.3	128.0	128.1	128.2	128.3	128.1	127.9
Frozen vegetables	126.1	126.0	128.6	128.7	129.2	129.1	129.8	130.6	130.2	130.6
Potatoes	126.9	100.5	128.9	100.5	141.2	149.4	180.1	179.0	181.8	218.6
Eggs for fresh use (1991=100)	77.9	84.9	81.8	104.2	86.6	79.2	89.4	74.5	92.6	71.2
Bakery products	178.0	182.3	187.7	187.5	189.1	188.3	188.9	189.7	189.6	189.7
Meats	104.6	114.3	120.3	123.7	114.2	114.9	112.9	117.9	118.6	115.7
Beef and veal	106.3	113.7	120.6	127.5	111.7	113.2	111.7	120.0	121.0	117.9
Pork	96.0	113.4	120.3	120.3	114.4	114.4	111.9	115.0	115.0	109.9
Processed poultry	114.0	112.9	116.8	115.8	120.0	116.7	116.4	115.5	114.1	110.9
Unprocessed and packaged fish	190.9	198.1	190.8	205.2	181.5	177.3	183.1	202.1	184.2	187.0
Dairy products	139.2	133.7	145.2	141.7	145.4	139.4	140.9	139.8	138.1	137.7
Processed fruits and vegetables	128.1	128.6	129.6	128.6	131.2	131.9	131.7	132.4	132.0	131.8
Shortening and cooking oil	140.4	132.4	132.9	131.0	132.2	133.7	133.3	131.8	132.1	133.6
Soft drinks	137.9	144.1	148.2	147.8	149.7	148.6	149.3	151.5	151.9	151.6
Finished consumer goods less foods	130.5	138.4	141.4	143.2	137.0	135.4	135.5	135.4	137.2	139.2
Alcoholic beverages	136.7	140.6	145.4	145.0	146.3	146.7	146.1	146.5	146.9	147.1
Apparel	127.1	127.4	126.8	127.0	126.6	126.3	125.8	125.8	125.3	124.4
Footwear	144.5	144.9	145.8	146.7	145.8	145.9	146.0	146.0	145.8	145.7
Tobacco products	374.0	397.2	441.9	426.6	455.3	455.4	447.9	448.1	448.7	466.0
Intermediate materials[3]	123.2	129.2	129.7	130.7	126.6	125.4	125.6	125.5	126.5	127.6
Materials for food manufacturing	120.8	119.2	124.3	123.5	123.9	122.3	122.6	123.3	123.2	122.0
Flour	104.3	103.8	109.9	108.3	112.2	111.4	113.5	113.5	113.8	107.9
Refined sugar[4]	121.0	110.6	109.9	108.2	111.4	113.1	115.9	115.9	116.5	118.8
Crude vegetable oils	90.2	73.6	70.1	66.5	72.9	73.8	75.2	70.1	70.7	72.1
Crude materials[5]	98.2	120.6	121.0	133.1	102.1	94.7	98.1	97.6	102.3	107.9
Foodstuffs and feedstuffs	98.7	100.2	106.1	109.2	98.5	96.2	99.5	102.3	102.9	96.4
Fruits and vegetables and nuts[6]	117.4	111.1	114.4	115.3	110.3	123.1	127.7	133.5	148.6	103.0
Grains	80.1	78.3	81.2	80.4	80.3	82.6	82.2	81.0	81.3	79.4
Slaughter livestock	86.4	96.5	99.6	108.4	84.3	84.0	89.7	96.4	98.4	90.1
Slaughter poultry, live	129.9	124.7	130.7	128.0	134.5	121.4	124.7	119.9	118.8	112.7
Plant and animal fibers	86.5	93.9	67.2	71.9	54.2	54.8	54.9	56.6	55.2	54.3
Fluid milk	106.3	92.0	111.8	108.2	108.0	100.3	99.5	100.1	94.8	93.3
Oilseeds	90.8	93.8	89.7	84.2	86.5	85.3	86.3	85.7	88.7	90.6
Leaf tobacco	101.6	--	105.2	81.1	116.1	115.2	113.8	111.1	81.7	--
Raw cane sugar	113.7	101.8	111.4	112.9	111.3	112.7	111.7	109.4	105.8	104.4

-- = Not available. 1. Commodities ready for sale to ultimate consumer. 2. Includes all raw, intermediate, and processed foods (excludes soft drinks, alcoholic beverages, and manufactured animal feeds). 3. Commodities requiring further processing to become finished goods. 4. All types and sizes of refined sugar. 5. Products entering market for the first time that have not been manufactured at that point. 6. Fresh and dried. This table is compiled with data provided by the Bureau of Labor Statistics (BLS). BLS operates a website at http://www.bls.gov and a Producer Prices Information Hotline at (202) 691-7705.

Farm-Retail Price Spreads

Table 8—Farm-Retail Price Spreads

	Annual			2001			2002			
	1999	2000	2001	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Market basket[1]										
Retail cost (1982-84=100)	167.3	170.6	177.2	176.0	178.9	178.9	180.7	180.4	181.0	180.9
Farm value (1982-84=100)	98.3	96.9	106.2	103.6	108.2	105.6	106.8	105.2	108.7	102.6
Farm-retail spread (1982-84=100)	204.5	210.3	215.4	215.0	217.0	218.5	220.6	221.0	220.0	223.1
Farm value-retail cost (%)	20.6	19.9	21.0	20.6	21.2	20.7	20.7	20.4	21.0	19.8
Meat products										
Retail cost (1982-84=100)	142.3	150.4	159.3	158.0	161.2	160.0	160.0	159.9	161.3	160.6
Farm value (1982-84=100)	81.6	88.4	97.4	93.4	100.5	100.9	101.1	100.9	101.3	101.6
Farm-retail spread (1982-84=100)	204.7	214.0	222.8	224.3	223.5	220.6	220.4	220.5	222.9	221.2
Farm value-retail cost (%)	29.0	29.8	31.0	29.9	31.6	31.9	32.0	31.9	31.8	32.0
Dairy products										
Retail cost (1982-84=100)	159.6	160.7	167.1	163.4	171.2	170.8	169.9	170.1	169.4	168.7
Farm value (1982-84=100)	107.9	98.8	118.5	115.7	116.8	105.9	106.1	104.0	101.7	99.9
Farm-retail spread (1982-84=100)	207.2	217.7	211.8	207.4	221.4	230.7	228.7	231.0	231.9	232.1
Farm value-retail cost (%)	32.4	29.5	34.0	34.0	32.7	29.7	30.0	29.3	28.8	28.4
Poultry										
Retail cost (1982-84=100)	157.9	159.8	164.9	163.1	166.4	167.7	166.8	167.8	168.0	166.9
Farm value (1982-84=100)	119.0	117.4	126.2	124.0	127.1	118.9	116.8	108.7	102.7	97.1
Farm-retail spread (1982-84=100)	202.7	208.7	209.3	208.1	211.6	223.9	224.4	235.9	243.2	247.3
Farm value-retail cost (%)	40.3	39.3	41.0	40.7	40.9	38.0	37.5	34.7	32.7	31.1
Eggs										
Retail cost (1982-84=100)	128.1	131.9	136.4	144.7	138.4	133.5	138.4	138.6	141.0	138.4
Farm value (1982-84=100)	74.9	80.6	74.3	84.6	83.4	70.5	77.4	62.9	88.5	55.2
Farm-retail spread (1982-84=100)	223.7	223.9	248.0	252.7	237.3	246.8	248.1	274.6	235.3	287.9
Farm value-retail cost (%)	37.6	39.3	35.0	37.5	38.7	33.9	35.9	29.2	40.3	25.6
Cereal and bakery products										
Retail cost (1982-84=100)	185.0	188.3	193.8	192.5	194.9	195.3	196.7	197.6	197.0	198.1
Farm value (1982-84=100)	82.5	75.2	78.8	80.0	77.3	76.6	77.6	76.3	77.3	74.5
Farm-retail spread (1982-84=100)	199.2	204.0	209.9	208.2	211.3	211.9	213.3	214.5	213.7	215.3
Farm value-retail cost (%)	5.5	4.9	5.0	5.1	4.9	4.8	4.8	4.7	4.8	4.6
Fresh fruit										
Retail cost (1982-84=100)	294.3	284.3	291.7	297.7	296.4	298.7	305.2	289.9	291.5	294.0
Farm value (1982-84=100)	153.7	141.3	145.7	141.6	168.7	170.8	168.7	162.4	157.4	152.7
Farm-retail spread (1982-84=100)	359.3	350.3	359.1	369.7	355.4	357.7	368.2	348.8	353.4	359.2
Farm value-retail cost (%)	16.5	15.7	15.8	15.0	18.0	18.1	17.5	17.7	17.1	16.4
Fresh vegetables										
Retail cost (1982-84=100)	209.3	219.4	230.6	232.6	228.6	230.4	251.6	258.1	265.3	255.9
Farm value (1982-84=100)	118.1	121.4	129.9	129.2	111.7	119.1	141.5	154.7	214.2	147.8
Farm-retail spread (1982-84=100)	256.2	269.8	282.4	285.7	288.7	287.6	308.2	311.2	291.6	311.5
Farm value-retail cost (%)	19.2	18.8	19.1	18.9	16.6	17.6	19.1	20.4	27.4	19.6
Processed fruits and vegetables										
Retail cost (1982-84=100)	154.8	153.6	159.3	156.3	160.5	161.1	161.7	162.3	162.9	164.5
Farm value (1982-84=100)	113.5	106.4	107.9	105.6	111.4	112.2	111.6	111.5	112.9	112.9
Farm-retail spread (1982-84=100)	167.7	168.3	175.3	172.1	175.8	176.4	177.3	178.1	178.5	180.6
Farm value-retail cost (%)	17.4	16.5	16.1	16.1	16.5	16.6	16.4	16.3	16.5	16.3
Fats and oils										
Retail cost (1982-84=100)	148.3	147.4	155.7	151.5	155.6	156.9	158.3	157.2	156.4	156.5
Farm value (1982-84=100)	89.0	80.9	76.9	72.1	78.6	80.3	76.2	75.6	79.6	79.0
Farm-retail spread (1982-84=100)	170.0	171.9	184.7	180.7	183.9	185.1	188.5	187.2	184.7	185.0
Farm value-retail cost (%)	16.2	14.8	13.3	12.8	13.6	13.8	12.9	12.9	13.7	13.6

See footnotes at end of table, next page.

Table 8—Farm-Retail Price Spreads (continued)

	Annual			2001			2002			
	1999	2000	2001	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Beef, all fresh retail value (cents/lb.)	260.5	275.3	300.5	299.4	303.5	303.3	305.1	307.9	305.4	305.9
Beef, Choice										
Retail value (cents/lb.)[2]	287.8	306.4	337.7	343.2	337.6	330.3	330.8	330.5	329.8	333.5
Wholesale value (cents/lb.)[3]	171.6	182.3	192.1	201.7	174.3	177.3	175.2	188.2	188.6	182.8
Net farm value (cents/lb.)[4]	141.1	149.0	154.5	164.8	136.3	137.8	145.4	155.1	155.6	145.6
Farm-retail spread (cents/lb.)	146.7	157.4	183.2	178.4	201.3	192.5	185.4	175.4	174.2	187.9
Wholesale-retail (cents/lb.)[5]	116.2	124.1	145.6	141.5	163.3	153.0	155.6	142.3	141.2	150.7
Farm-wholesale (cents/lb.)[6]	30.5	33.3	37.6	36.9	38.0	39.5	29.8	33.1	33.0	37.2
Farm value-retail value (%)	49.0	48.6	45.8	48.0	40.4	41.7	44.0	46.9	47.2	43.7
Pork										
Retail value (cents/lb.)[2]	241.5	258.2	269.4	263.3	271.3	271.4	270.8	271.7	270.3	266.7
Wholesale value (cents/lb.)[3]	99.0	114.5	117.8	120.5	105.7	105.5	108.4	108.3	104.6	98.2
Net farm value (cents/lb.)[4]	60.4	79.4	81.2	87.2	62.9	62.4	71.5	72.4	66.7	58.6
Farm-retail spread (cents/lb.)	181.1	178.8	188.2	176.1	208.4	209.0	199.3	199.3	203.6	208.1
Wholesale-retail (cents/lb.)[5]	142.5	143.7	151.6	142.8	165.6	165.9	162.4	163.4	165.7	168.5
Farm-wholesale (cents/lb.)[6]	38.6	35.1	36.6	33.3	42.8	43.1	36.9	35.9	37.9	39.6
Farm value-retail value (%)	25.0	30.8	30.1	33.1	23.2	23.0	26.4	26.6	24.7	22.0

1. Retail costs are based on CPI-U of retail prices for domestically produced farm foods, published monthly by the Bureau of Labor Statistics (BLS). Farm value is the payment for the quantity of farm equivalent to the retail unit, less allowance for by-product. Farm values are based on prices at first point of sale, and may include marketing charges such as grading and packing for some commodities. The farm-retail spread, the difference between the retail value and farm value, represents charges for assembling, processing, transporting, and distributing. 2. Weighted-average value of retail cuts from pork and Choice yield grade 3 beef. Prices from BLS. 3. Value of wholesale (boxed beef) and wholesale cuts (pork) equivalent to 1 pound of retail cuts adjusted for transportation costs and by-product values. 4. Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of by-products. 5. Charges for retailing and other marketing services such as wholesaling and in-city transportation. 6. Charges for livestock marketing, processing, and transportation. *Information contacts: Veronica Jones (202) 694-5387, William F. Hahn (202) 694-5175*

Table 9—Price Indexes of Food Marketing Costs

	Annual			2000		2001				2002
	1999	2000	2001	III	IV	I	II	III	IV	I
					*1987=100**					
Labor—hourly earnings and benefits	503.3	514.0	533.8	514.1	521.7	527.5	531.8	534.4	541.5	543.8
Processing	511.4	525.0	544.8	526.9	531.3	536.4	542.7	546.5	553.4	555.4
Wholesaling	564.6	589.4	615.4	587.3	601.0	606.4	611.3	618.7	625.5	623.7
Retailing	465.8	469.9	486.9	465.2	477.2	483.8	485.8	485.2	492.7	496.8
Packaging and containers	399.4	412.0	415.9	413.5	413.7	414.2	417.8	416.6	414.9	415.6
Paperboard boxes and containers	373.0	407.7	411.7	412.4	413.5	412.0	413.1	412.1	409.7	406.9
Metal cans	486.6	452.5	444.4	440.1	440.1	441.5	444.3	446.0	445.7	451.6
Paper bags and related products	440.9	470.4	475.7	477.6	474.5	474.2	481.3	474.6	472.6	473.8
Plastic films and bottles	324.2	336.7	344.2	342.4	344.3	344.0	345.8	344.4	342.6	340.2
Glass containers	447.1	450.8	469.7	451.1	450.8	460.2	471.7	473.7	473.0	480.8
Metal foil	227.3	232.4	241.4	233.8	234.8	235.5	246.1	242.7	241.4	241.6
Transportation services	394.0	394.3	404.0	394.6	396.9	401.0	403.1	406.3	405.9	405.5
Advertising	623.7	635.7	646.6	635.7	638.6	644.3	645.6	646.0	649.3	660.4
Fuel and power	651.5	841.1	803.5	866.1	859.6	830.3	826.6	826.4	730.7	699.3
Electric	489.4	498.2	532.3	523.8	504.9	514.3	526.1	559.9	529.1	516.8
Petroleum	565.9	1,135.8	912.7	1,160.6	1,166.4	998.5	974.7	937.2	740.4	678.2
Natural gas	1,235.6	1,275.4	1,354.3	1,300.7	1,305.7	1,403.3	1,391.5	1,363.3	1,259.1	1,226.6
Communications, water, and sewage	309.3	309.1	313.7	308.7	309.5	312.6	312.5	314.2	315.5	317.1
Rent	256.9	258.2	257.5	259.1	259.0	259.2	257.7	257.1	256.0	254.8
Maintenance and repair	541.6	561.2	582.3	564.7	569.7	574.8	578.8	585.2	590.3	595.4
Business services	531.9	544.6	559.3	545.9	548.8	555.3	558.0	560.4	563.1	566.4
Supplies	327.7	348.5	344.8	344.5	345.8	349.2	347.0	342.8	339.1	339.1
Property taxes and insurance	619.7	654.6	691.9	658.6	672.6	680.9	687.5	695.1	704.3	711.6
Interest, short-term	103.7	115.4	61.0	117.7	116.0	91.0	64.1	55.0	33.8	32.5
Total marketing cost index	472.2	491.5	501.9	493.1	497.1	499.5	502.1	503.6	502.2	502.8

Last two quarters preliminary. * Indexes measure changes in employee earnings and benefits and in prices of supplies used in processing, wholesaling, and retailing U.S. farm foods purchased for at-home consumption. *Information contact: Veronica Jones (202) 694-5387*

Livestock & Products

Table 10—U.S. Meat Supply & Use

	Beg. stocks	Production[1]	Imports	Total supply	Exports	Ending stocks	Consumption: Total	Consumption: Per capita[2]	Conversion factor[3]	Primary market price[4]
				Million lbs.[5]				*Lbs.*		*$/cwt*
Beef										
1999	393	26,493	2,873	29,759	2,412	411	26,936	68	0.700	65.56
2000	411	26,888	3,031	30,330	2,468	525	27,337	68	0.700	69.65
2001	525	26,212	3,161	29,898	2,271	606	27,022	66	0.700	72.71
2002	606	26,456	3,230	30,292	2,285	425	27,582	67	0.700	68.80
2003	425	25,230	3,275	28,930	2,400	350	26,180	63	0.700	75.50
Pork										
1999	584	19,308	827	20,720	1,277	489	18,954	53	0.776	34.00
2000	489	18,952	967	20,407	1,287	478	18,643	51	0.776	44.70
2001	478	19,160	950	20,588	1,563	536	18,489	50	0.776	45.81
2002	536	19,576	960	21,072	1,485	550	19,037	51	0.776	35.61
2003	550	19,822	960	21,332	1,550	600	19,182	51	0.776	36.75
Veal[6]										
1999	5	235	0	240	0	5	235	1	0.83	89.62
2000	5	225	0	230	0	5	225	1	0.83	105.75
2001	5	205	0	210	0	6	204	1	0.83	106.70
2002	6	197	0	203	0	5	198	1	0.83	100.96
2003	5	195	0	200	0	5	195	1	0.83	108.48
Lamb and mutton										
1999	12	248	112	372	5	9	358	1	0.89	75.97
2000	9	234	130	372	5	13	354	1	0.89	79.40
2001	13	227	146	386	7	12	368	1	0.89	72.04
2002	12	220	161	393	5	13	375	1	0.89	66.16
2003	13	213	161	387	5	13	369		0.89	65.25
Total red meat										
1999	994	46,284	3,813	51,091	3,694	914	46,483	122	--	--
2000	914	46,299	4,127	51,340	3,760	1,021	46,559	121	--	--
2001	1,021	45,804	4,257	51,082	3,840	1,160	46,082	118	--	--
2002	1,160	46,449	4,351	51,960	3,775	993	47,192	120	--	--
2003	993	45,460	4,396	50,849	3,955	968	45,926	116	--	--
										¢/lb
Broilers										
1999	711	29,468	4	30,184	4,585	796	24,803	76	0.859	58
2000	796	30,209	6	31,011	4,918	798	25,295	77	0.859	56
2001	798	30,938	14	31,749	5,562	712	25,475	76	0.859	59
2002	712	31,840	8	32,560	5,440	725	26,395	78	0.859	57
2003	725	32,647	12	33,384	5,850	715	26,819	79	0.859	59
Mature chickens										
1999	6	554	0	562	393	8	162	1	1.0	--
2000	8	531	0	540	220	9	311	1	1.0	--
2001	9	515	0	528	182	8	337	1	1.0	--
2002	8	507	0	516	170	8	338	1	1.0	--
2003	8	500	0	509	160	8	341	1	1.0	--
Turkeys										
1999	304	5,230	1	5,535	378	254	4,902	18	1.0	69
2000	254	5,333	1	5,589	445	241	4,902	17	1.0	71
2001	241	5,489	1	5,732	487	241	5,003	18	1.0	66
2002	241	5,562	1	5,804	470	300	5,033	17	1.0	65
2003	300	5,601	1	5,902	490	325	5,086	17	1.0	66
Total poultry										
1999	1,022	35,252	7	36,281	5,356	1,058	29,867	94	--	--
2000	1,058	36,073	9	37,140	5,584	1,048	30,508	95	--	--
2001	1,048	36,942	18	38,008	6,232	961	30,815	95	--	--
2002	961	37,908	11	38,880	6,080	1,033	31,766	97	--	--
2003	1,033	38,747	15	39,795	6,500	1,048	32,246	98	--	--
Red meat and poultry										
1999	2,016	81,537	3,820	87,372	9,050	1,971	76,351	216	--	--
2000	1,971	82,372	4,136	88,480	9,344	2,069	77,068	216	--	--
2001	2,069	82,746	4,275	89,090	10,072	2,121	76,897	213	--	--
2002	2,121	84,357	4,362	90,840	9,855	2,026	78,958	217	--	--
2003	2,026	84,207	4,411	90,644	10,455	2,016	78,172	213	--	--

-- = Not available. Values for the last 2 years are forecasts. 1. Total including farm production for red meat and federally inspected plus nonfederally inspected for poultry. 2. Retail-weight basis. 3. Red meat, carcass to retail conversion; poultry, ready-to-cook production to retail weight. 4. Beef: Medium #1, Nebraska Direct 1,100-1,300 lb.; pork: barrows and gilts, Iowa, Southern Minnesota; veal: farm price of calves; lamb and mutton: choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 8-16 lb. young hens. 5. Carcass weight for red meats and certified ready-to-cook for poultry. 6. Beginning in 1989, veal trade is no longer reported separately. *Information contact: LaVerne Williams (202) 694-5190*

Table 11—U.S. Egg Supply & Use

	Beg. stocks	Production	Imports	Total supply	Exports	Hatching use	Ending stocks	Consumption		Primary market price*
								Total	Per capita	
	Million doz.								*No.*	*¢/doz.*
1996	11.2	6,350.7	5.4	6,367.3	253.1	863.8	8.5	5,241.8	234.6	88.2
1997	8.5	6,473.1	6.9	6,488.5	227.8	894.7	7.4	5,358.6	235.8	81.2
1998	7.4	6,657.9	5.8	6,671.2	218.8	921.8	8.4	5,522.2	240.1	75.8
1999	8.4	6,912.0	7.4	6,927.8	161.9	941.7	7.6	5,816.6	250.0	65.6
2000	7.6	7,033.5	8.4	7,049.5	171.1	940.2	11.4	5,926.8	251.8	68.9
2001	11.4	7,152.0	8.9	7,172.2	190.4	953.0	10.4	6,018.5	252.6	67.2
2002	10.4	7,183.0	8.0	7,201.4	165.0	965.0	12.0	6,059.4	251.7	64.8
2003	12.0	7,250.0	8.0	7,270.0	168.0	1,000.0	12.0	6,090.0	250.7	66.8

Values for the last year are forecasts. Values for previous year are preliminary. * Cartoned grade A large eggs, New York.
Information contact: LaVerne Williams (202) 694-5190

Table 12—U.S. Milk Supply & Use

	Production	Commercial			Imports	Total commercial supply	Commercial				CCC net removals	
		Farm use	Farm marketings	Beg. stocks			CCC net removals	Ending stocks	Disappearance	All milk price[1]	Skim solids basis	Total solids basis[2]
	Million lbs. (milkfat basis)									*$/cwt*	*Billion lbs.*	
1995	155.3	1.6	153.7	4.3	2.9	160.9	2.1	4.1	154.9	12.74	4.4	3.5
1996	154.0	1.5	153.5	4.1	2.9	159.5	0.1	4.7	154.7	14.74	0.7	0.5
1997	156.1	1.4	154.7	4.7	2.7	162.1	1.1	4.9	156.1	13.34	3.7	2.7
1998	157.4	1.4	156.1	4.9	4.6	165.5	0.4	5.3	159.9	15.42	4.0	2.6
1999	162.7	1.4	161.3	5.3	4.7	171.4	0.3	6.1	164.9	14.36	6.5	4.0
2000	167.6	1.3	166.2	6.1	4.4	176.8	0.8	6.9	169.1	12.40	8.6	5.5
2001	165.3	1.3	164.1	6.8	5.7	176.6	0.2	7.0	169.4	14.93	5.8	3.5
2002	169.7	1.2	168.5	7.0	4.9	180.5	0.2	6.6	173.7	12.70	7.5	4.6
2003	172.4	1.2	171.2	6.6	4.8	182.6	0.7	6.6	175.3	12.75	4.8	3.2

Values for latest year are forecasts. Values for the preceding year are preliminary. 1. Delivered to plants and dealers; does not reflect deductions.
2. Arbitrarily weighted average of milkfat basis (40 percent) and solids basis (60 percent). *Information contact: Jim Miller (202) 694-5184*

Table 13—Poultry & Eggs

	Annual			2001				2002		
	1999	2000	2001	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Broilers										
Federally inspected slaughter certified (mil. lb.)	29,741.4	30,495.2	31,265.8	2,588.6	2,897.2	2,500.7	2,464.8	2,786.5	2,465.6	2,581.5
Wholesale price, 12-city (cents/lb.)	58.1	56.2	59.1	59.0	60.2	58.9	56.0	56.9	55.9	55.2
Price of grower feed ($/ton)[1]	103.1	104.7	101.3	102.6	95.3	96.3	100.0	100.0	98.6	101.6
Broiler-feed price ratio[2]	7.2	6.6	7.8	7.8	8.6	8.1	7.4	7.4	6.9	6.3
Stocks beginning of period (mil. lb.)	711.1	795.6	797.6	676.6	616.7	628.7	678.8	711.8	711.3	721.0
Broiler-type chicks hatched (mil.)	8,715.4	8,846.2	9,006.6	773.8	747.5	702.6	769.7	775.7	702.6	790.3
Turkeys										
Federally inspected slaughter certified (mil. lb.)	5,296.5	5,402.2	5,561.7	462.0	541.3	493.0	419.8	484.0	451.2	450.7
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	69.0	70.5	66.3	62.4	72.9	73.5	67.7	60.9	60.0	59.0
Price of turkey grower feed ($/ton)[1]	95.0	95.9	95.8	97.3	92.1	92.7	95.6	94.7	94.7	96.8
Turkey-feed price ratio[2]	8.6	8.7	8.2	7.7	9.6	9.6	8.1	7.2	7.2	6.8
Stocks beginning of period (mil. lb.)	304.3	254.3	241.3	333.5	542.0	497.9	260.0	240.5	325.2	409.9
Poults placed in U.S. (mil.)	296.1	297.3	301.6	26.1	24.1	24.2	24.5	25.9	24.3	25.7
Eggs										
Farm production (mil.)	82,944.0	84,393.0	85,819.0	7,336.0	7,347.0	7,191.0	7,404.0	7,245.0	6,561.0	7,412.0
Average number of layers (mil.)	322.9	328.3	335.4	336.8	337.1	337.9	338.5	338.3	337.0	337.3
Rate of lay (eggs per layer on farms)	256.8	257.1	255.8	21.8	21.8	21.3	21.9	21.4	19.5	22.0
Cartoned price, New York, grade A large (cents/doz.)[3]	65.6	68.9	67.1	79.6	66.1	71.3	67.1	69.7	60.7	76.9
Price of laying feed ($/ton)[1]	124.6	123.6	123.8	116.6	112.0	111.5	126.9	122.2	133.1	118.1
Egg-feed price ratio[2]	9.8	10.6	9.9	11.6	10.7	11.5	9.3	10.2	8.4	11.6
Stocks, first of month Frozen (mil. doz.)	8.4	7.6	11.4	11.7	13.4	11.8	10.5	10.4	10.0	10.6
Replacement chicks hatched (mil.)	451.7	430.4	451.8	41.0	35.8	32.1	31.7	35.5	34.3	36.7

1. Calculated from price ratios that were revised February 1995. 2. Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight (revised February 1995). 3. Price of cartoned eggs to volume buyers for delivery to retailers.
Information contact: LaVerne Williams (202) 694-5190

Table 14—Dairy

	Annual			2001				2002		
	1999	2000	2001	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Class III (BFP before 2000) 3.5% fat ($/cwt.)	12.43	9.74	13.10	11.42	14.60	11.31	11.80	11.87	11.63	10.65
Wholesale prices										
Butter, Central States (cents/lb.)[1]	125.2	118.5	167.7	154.9	151.9	135.2	130.2	136.2	126.9	126.4
Am. cheese, Wis. assembly pt. (cents/lb.)	142.3	116.2	144.9	131.9	139.7	126.4	129.1	131.9	123.2	122.2
Nonfat dry milk (cents/lb.)[2]	103.5	101.6	100.8	103.1	98.8	96.1	95.8	94.0	93.6	92.2
USDA net removals										
Total (mil. lb.)[3]	343.5	841.4	151.3	14.3	-12.3	19.7	17.4	22.6	26.0	18.6
Butter (mil. lb.)	3.7	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Am. cheese (mil. lb.)	4.6	28.0	4.6	0.0	-1.7	0.8	0.8	0.8	0.8	0.0
Nonfat dry milk (mil. lb.)	540.6	692.6	494.4	66.9	16.7	53.9	43.4	67.0	82.7	84.5
Milk										
Milk prod. 20 states (mil. lb.)	140,062	144,535	142,817	12,384	11,756	11,492	12,008	12,272	11,365	12,771
Milk per cow (lb.)	18,109	18,533	18,438	1,599	1,522	1,485	1,549	1,585	1,468	1,649
Number of milk cows (1,000)	7,734	7,799	7,746	7,743	7,726	7,739	7,750	7,745	7,744	7,744
U.S. milk production (mil. lb.)[4]	162,716	167,559	165,336	14,370	13,616	13,305	13,897	14,318	13,255	14,891
Stocks, beginning[3]										
Total (mil. lb.)	5,302	6,186	7,010	8,488	9,001	8,386	7,077	7,259	8,446	9,393
Commercial (mil. lb.)	5,274	6,142	6,871	8,280	8,755	8,167	6,870	7,041	8,229	9,148
Government (mil. lb.)	28	44	139	208	247	219	206	218	216	245
Imports, total (mil. lb.)[3]	4,772	4,445	5,716	354	524	512	396	415	361	421
Commercial disappearance (mil. lb.)[3]	164,947	169,132	169,435	14,476	14,633	14,990	13,998	13,424	12,578	14,718
Butter										
Production (mil. lb.)	1,277.1	1,256.0	1,236.8	111.4	109.9	100.1	123.0	140.7	125.4	129.0
Stocks, beginning (mil. lb.)	25.9	24.9	24.0	85.8	110.5	100.4	57.6	55.5	99.9	129.4
Commercial disappearance (mil. lb.)	1,310.7	1,280.0	1,280.8	106.3	123.9	146.0	127.1	98.5	100.0	116.1
American cheese										
Production (mil. lb.)	3,532.6	3,641.6	3,519.2	297.1	296.0	286.3	312.2	315.2	287.4	316.5
Stocks, beginning (mil. lb.)	407.6	458.0	521.1	504.1	486.3	462.5	437.9	448.3	452.9	484.3
Commercial disappearance (mil. lb.)	3,542.2	3,595.8	3,656.0	306.0	333.5	316.3	304.4	314.2	257.5	312.9
Other cheese										
Production (mil. lb.)	4,361.5	4,616.4	4,609.9	416.6	386.1	405.0	390.9	382.4	359.7	400.7
Stocks, beginning (mil. lb.)	109.5	163.3	185.2	218.0	221.2	208.9	193.2	210.9	234.2	230.6
Commercial disappearance (mil. lb.)	4,672.1	4,959.1	4,952.3	449.7	435.1	464.5	412.5	379.7	391.9	428.9
Nonfat dry milk										
Production (mil. lb.)	1,359.7	1,451.8	1,413.8	121.1	105.8	107.2	130.8	118.9	125.8	142.8
Stocks, beginning (mil. lb.)	56.9	150.9	146.3	137.8	101.9	102.2	102.8	124.5	120.0	142.5
Commercial disappearance (mil. lb.)	737.2	770.6	948.5	68.5	89.2	53.2	69.7	67.7	21.7	56.8
Frozen dessert										
Production (mil. gal.)[5]	1,301.0	1,304.9	1,325.4	116.8	101.9	87.4	83.1	95.9	100.1	112.7

	Annual			2000		2001				2002
	1999	2000	2001	III	IV	I	II	III	IV	I
Milk production (mil. lb.)	162,716	167,559	165,336	41,108	40,644	41,267	42,681	40,570	40,818	42,464
Milk per cow (lb.)	17,772	18,201	18,139	4,458	4,416	4,514	4,683	4,459	4,483	4,642
No. of milk cows (1,000)	9,156	9,206	9,115	9,221	9,203	9,143	9,114	9,098	9,105	9,105
Milk-feed price ratio	2.03	1.75	--	1.84	1.81	--	--	--	--	--
Returns over concentrate costs ($/cwt milk)	11.40	9.40	--	9.85	9.80	--	--	--	--	--

-- = Not available. Quarterly values for latest year are preliminary. 1. Grade AA Chicago before June 1998. 2. Prices paid f.o.b. Central States production area. 3. Milk equivalent, fat basis. 4. Monthly data ERS estimates. 5. Hard ice cream, ice milk, and hard sherbet. *Information contact: LaVerne Williams (202) 694-5190*

Table 15—Wool

	Annual			2000		2001				2002
	1999	2000	2001	III	IV	I	II	III	IV	I
U.S. wool price (¢/lb.)[1]	110	107	121	117	96	101	130	125	126	--
Imported wool price (¢/lb.)[2]	136	137	160	139	136	151	155	167	168	--
U.S. mill consumption, scoured										
Apparel wool (1,000 lb.)	63,535	62,041	51,230	14,620	13,914	16,590	13,009	11,197	10,434	--
Carpet wool (1,000 lb.)	13,950	15,205	13,010	3,766	3,886	4,278	3,791	2,904	2,037	--

-- = Not available. 1. Wool price delivered at U.S. mills, clean basis, Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" and up. 2. Wool price, Charleston, SC warehouse, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10 cents.

Information contact: Wilma L. Davis (202) 694-5304

Table 16—Meat Animals

	Annual			2001				2002		
	1999	2000	2001	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Cattle on feed (7 states, 1000+ head capacity)										
Number on feed (1,000 head)[1]	9,021	9,752	10,076	10,012	9,613	10,231	10,203	9,910	9,951	9,905
Placed on feed (1,000 head)	21,446	21,875	21,145	1,530	2,315	1,581	1,330	1,907	1,543	1,654
Marketings (1,000 head)	20,124	20,674	19,955	1,603	1,640	1,541	1,545	1,792	1,537	1,565
Other disappearance (1,000 head)	676	702	774	80	57	68	78	74	52	60
Market prices ($/cwt)										
Slaughter cattle										
Choice steers, 1,100-1,300 lb.										
Texas	65.89	69.86	71.98	79.44	66.30	63.60	63.62	64.00	70.81	71.97
Neb. direct	65.56	69.65	72.43	79.80	66.58	64.71	64.00	67.55	71.15	72.59
Boning utility cows, Sioux Falls	38.40	41.71	44.49	46.10	43.25	37.75	38.38	43.75	41.88	44.06
Feeder steers										
Medium no. 1, Oklahoma City										
600-650 lb.	82.64	94.31	95.29	99.14	87.99	86.40	89.30	87.46	90.12	91.45
750-800 lb.	76.39	86.14	88.20	87.19	88.03	83.63	84.44	81.65	82.04	80.03
Slaughter hogs										
Barrows and gilts, 51-52 percent lean										
National Base converted to live equal.	34.00	44.70	45.81	48.41	41.27	35.49	35.14	40.16	40.65	37.47
Sows, Iowa, S.MN 1-2 300-400 lb.	19.26	29.79	33.98	34.37	31.60	25.01	25.28	27.79	29.45	29.50
Slaughter sheep and lambs										
Lambs, Choice, San Angelo	75.96	79.40	72.04	82.63	57.67	59.00	71.60	65.85	70.00	64.00
Ewes, Good, San Angelo	42.45	46.23	45.66	56.94	38.50	39.83	43.60	41.10	39.19	36.00
Feeder lambs										
Choice, San Angelo	80.74	95.86	89.38	115.44	68.50	70.67	76.90	76.25	84.25	78.00
Wholesale meat prices, Midwest										
Boxed beef cut-out value										
Choice, 700-800 lb.	110.90	117.45	122.17	130.92	113.58	108.70	110.74	110.14	109.59	120.02
Select, 700-800 lb.	101.91	108.83	114.42	127.54	104.64	101.46	105.53	107.91	107.18	117.13
Canner and cutter cow beef	66.51	72.57	--	--	--	--	--	--	--	--
Pork cutout	53.45	64.07	66.83	70.98	60.68	56.74	56.68	58.39	58.59	56.12
Pork loins, bone-in, 1/4" trim,14-19 lb.	100.38	117.13	116.97	128.53	108.69	97.57	98.50	106.95	105.73	100.08
Pork bellies, 12-14 lb.	57.12	77.46	78.61	78.04	61.30	63.58	69.13	70.87	70.75	72.55
Hams, bone-in, trimmed, 20-23 lb.	45.18	52.02	56.86	59.94	57.38	50.69	45.96	48.05	52.56	51.56
All fresh beef retail price	260.50	275.30	275.30	298.50	303.10	303.50	303.30	305.10	307.30	304.70
Commercial slaughter (1,000 head)[2]										
Cattle	36,150	36,246	35,370	2,918	3,161	2,903	2,779	3,056	2,615	2,737
Steers	17,932	18,063	17,386	1,417	1,522	1,375	1,377	1,450	1,256	1,330
Heifers	11,868	12,039	11,576	953	1,036	952	883	1,021	894	920
Cows	5,710	5,520	5,774	494	544	527	473	533	419	438
Bull and stags	639	624	632	54	59	50	46	52	46	49
Calves	1,282	1,132	1,007	84	94	87	84	87	73	78
Sheep and lambs	3,701	3,460	3,222	323	289	287	279	255	256	324
Hogs	101,544	97,976	97,962	8,329	9,330	8,717	8,419	8,658	7,500	7,981
Barrows and gilts	97,732	94,604	94,588	8,028	9,019	8,437	8,155	8,369	7,252	7,705
Commercial production (mil. lb.)										
Beef	26,385	26,776	26,108	2,096	2,388	2,201	2,110	2,330	1,987	2,059
Veal	224	215	194	16	18	16	16	17	14	15
Lamb and mutton	243	232	224	23	20	20	19	18	18	22
Pork	19,278	18,929	19,139	1,626	1,838	1,733	1,668	1,716	1,482	1,581

	Annual			2000	2001				2002	
	1999	2000	2001	IV	I	II	III	IV	I	II
Hogs and pigs (U.S.)[3]										
Inventory (1,000 head)[1]	62,206	59,342	59,138	59,495	59,138	57,524	58,603	59,577	59,074	58,698
Breeding (1,000 head)[1]	6,682	6,234	6,270	6,246	6,270	6,232	6,186	6,158	6,209	6,236
Market (1,000 head)[1]	55,523	53,109	52,868	53,250	52,868	51,292	52,417	53,419	52,864	52,461
Farrowings (1,000 head)	11,641	11,462	11,303	2,838	2,748	2,870	2,878	2,846	2,832	2,896
Pig crop (1,000 head)	102,354	101,354	99,473	25,112	23,963	25,509	25,539	24,972	24,711	--
Cattle on Feed, 7 states (1,000 head)[1, 4]										
Steers and steer calves	5,432	5,768	5,936	5,584	5,936	5,885	5,521	5,690	6,077	6,180
Heifers and heifer calves	3,552	3,942	4,081	3,877	4,081	3,913	3,894	3,882	3,769	3,718
Cows and bulls	37	42	59	41	59	61	51	41	64	36

-- = Not available. 1. Beginning of period. 2. Classes estimated. 3. Quarters are Dec. of preceding year to Feb. (I), Mar.-May (II), June-Aug. (III), and Sept.-Nov. (IV). 4. The 7 states include AZ, CA, CO, IA, KS, NE, and TX. *Information contact: Leland Southard (202) 694-5187*

Crops & Products

Table 17—Supply & Utilization[1,2]

	Area											
	Planted	Harvested	Yield	Production	Total supply[4]	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price[5]
	Mil. acres		*Bu./acre*				*Mil. bu.*				*$/bu.*
Wheat											
1998/99	65.8	59.0	43.2	2,547	3,373	391	990	1,046	2,427	946	2.65
1999/00	62.7	53.8	42.7	2,299	3,339	288	1,013	1,089	2,390	950	2.48
2000/01	62.6	53.1	42.0	2,232	3,272	299	1,036	1,061	2,396	876	2.62
2001/02*	59.6	48.7	40.2	1,958	2,939	200	1,026	975	2,201	738	2.78
2002/03*	59.0	47.1	40.1	1,886	2,729	200	1,035	875	2,110	619	2.50-3.10
	Mil. acres		*Lb./acre*				*Mil. cwt (rough equiv)*				*$/cwt*
Rice[6]											
1998/99	3.3	3.3	5,663.0	184.4	223.0	--	6/ 114.0	86.8	200.9	22.1	8.89
1999/00	3.5	3.5	5,866.0	206.0	238.2	--	6/ 121.9	88.8	210.7	27.5	5.93
2000/01	3.1	3.0	6,281.0	190.9	229.2	--	6/ 114.3	86.4	200.7	28.5	5.61
2001/02*	3.3	3.3	6,429.0	213.0	254.5	--	6/ 123.1	90.0	213.1	41.4	4.15-4.25
2002/03*	3.3	3.3	6,299.0	208.0	262.7	--	6/ 126.1	92.0	218.1	44.6	3.95-4.45
	Mil. acres		*Bu./acre*				*Mil. bu.*				*$/bu.*
Corn											
1998/99	80.2	72.6	134.4	9,759	11,085	5,468	1,846	1,984	9,298	1,787	1.94
1999/00	77.4	70.5	133.8	9,431	11,232	5,665	1,913	1,937	9,515	1,718	1.82
2000/01	79.6	72.4	136.9	9,915	11,639	5,838	1,967	1,935	9,740	1,899	1.85
2001/02*	75.8	68.8	138.2	9,507	11,416	5,825	2,045	1,925	9,795	1,621	1.85-1.95
2002/03*	79.0	72.0	137.9	9,935	11,571	5,750	2,160	2,100	10,010	1,561	1.75-2.15
	Mil. acres		*Bu./acre*				*Mil. bu.*				$/bu.
Sorghum											
1998/99	9.6	7.7	67.3	520	569	262	45	197	504	65	1.66
1999/00	9.3	8.5	69.7	595	660	285	55	255	595	65	1.57
2000/01	9.2	7.7	60.9	471	536	220	35	239	494	42	1.89
2001/02*	10.3	8.6	59.9	515	556	215	45	250	510	46	1.80-1.90
2002/03*	9.0	7.7	69.0	533	579	225	50	250	525	54	1.60-2.00
	Mil. acres		*Bu./acre*				*Mil. bu.*				*$/bu.*
Barley											
1998/99	6.3	5.9	60.0	352	501	161	170	29	360	142	1.98
1999/00	5.2	4.7	59.2	280	450	138	172	28	338	111	2.13
2000/01	5.9	5.2	61.1	319	459	123	172	58	353	106	2.11
2001/02*	5.0	4.3	58.2	250	379	95	172	28	295	84	2.23
2002/03*	5.1	4.5	62.1	278	392	110	172	25	307	85	1.95-2.35
	Mil. acres		*Bu./acre*				*Mil. bu.*				*$/bu.*
Oats											
1998/99	4.9	2.8	60.2	166	348	196	69	2	266	81	1.10
1999/00	4.7	2.5	59.6	146	326	180	68	2	250	76	1.12
2000/01	4.5	2.3	64.2	150	332	189	68	2	259	73	1.10
2001/02*	4.4	1.9	61.3	117	285	155	72	3	230	55	1.55
2002/03*	5.1	2.5	61.2	155	310	175	72	2	249	61	0.90-1.30
	Mil. acres		*Bu./acre*				*Mil. bu.*				*$/bu.*
Soybeans[7]											
1998/99	72.0	70.4	38.9	2,741	2,944	201	1,590	805	2,595	348	4.93
1999/00	73.7	72.4	36.6	2,654	3,006	164	1,578	975	2,716	290	4.63
2000/01	74.3	72.4	38.1	2,758	3,052	163	1,641	1,000	2,804	248	4.54
2001/02*	74.1	73.0	39.6	2,891	3,141	171	1,690	1,020	2,881	260	4.25
2002/03*	73.0	71.7	39.7	2,850	3,114	174	1,710	975	2,859	255	4.00-4.90
							Mil. lbs.				*¢/lb.*
Soybean oil											
1998/99	--	--	--	18,081	19,546	--	15,655	2,372	18,027	1,520	19.90
1999/00	--	--	--	17,825	19,426	--	16,056	1,375	17,431	1,995	15.60
2000/01	--	--	--	18,434	20,502	--	16,219	1,406	17,625	2,877	14.15
2001/02*	--	--	--	18,755	21,690	--	16,975	2,150	19,125	2,565	15.10
2002/03*	--	--	--	19,170	21,800	--	17,500	1,950	19,450	2,350	15.00-18.00
							1,000 tons				*$/ton*[8]
Soybean meal											
1998/99	--	--	--	37,792	38,109	--	30,657	7,122	37,779	330	138.5
1999/00	--	--	--	37,591	37,970	--	30,345	7,332	37,678	293	167.7
2000/01	--	--	--	39,389	39,733	--	31,687	7,662	39,349	383	173.6
2001/02*	--	--	--	40,162	40,605	--	32,580	7,750	40,330	275	159.0
2002/03*	--	--	--	40,660	41,000	--	33,100	7,650	40,750	250	145-175

See footnotes at end of table, next page

Table 17—Supply & Utilization (continued)

	Area										
	Planted	Harvested	Yield	Production	Total supply [3]	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price [4]
	Mil. acres		*Lb./acre*	*Mil. bales*							*¢/lb.*
Cotton [8]											
1998/99	13.4	10.7	625	13.9	18.2	--	10.4	4.3	14.7	3.9	60.2
1999/00	14.9	13.4	607	17.0	21.0	--	10.2	6.8	16.9	3.9	45.0
2000/01	15.5	13.1	632	17.2	21.1	--	8.9	6.8	15.6	6.0	49.8
2001/02*	15.8	13.8	705	20.3	26.3	--	7.6	11.0	18.6	7.7	31.3
2002/03*	14.8	13.4	640	17.8	25.5	--	7.8	11.0	18.8	6.7	--

-- = Not available or not applicable. *May 10, 2001 Supply and Demand Estimates. 1. Marketing year beginning June 1 for wheat, barley and oats; August 1 for cotton and rice; September 1 for soybeans, corn, and sorghum; October 1 for soymeal and soyoil. 2. Conversion factors: hectare (ha.) = 2.471 acres, 1 metric ton = 2,204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.9296 bushels of barley, 68.8944 bushels of oats, 22.046 cwt of rice, and 4.59 480-pound bales of cotton. 3. Includes imports. 4. Marketing-year weighted average price received by farmers. Does not include an allowance for loans outstanding and government purchases. 5. Residual included in domestic use. 6. Includes seed. 7. Simple average of 48 percent protein, Decatur. 8. Upland and extra-long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply and use estimates. For 2001/02, cotton price is the average for August 2001-March 2002. USDA is prohibited by law from publishing cotton price projections. *Information contact: Wilma Davis (202) 694-5304*

Table 18—Cash Prices, Selected U.S. Commodities

	Marketing year [1]			2001			2002			
	1999/2000	2000/2001	2001/2002	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Wheat, no. 1 HRW, Kansas City ($/bu.) [2]	2.87	3.30	--	3.41	3.37	3.26	3.29	3.25	3.23	3.24
Wheat, DNS, Minneapolis ($/bu.) [3]	3.65	3.62	--	3.71	3.69	3.59	3.55	3.51	3.51	3.55
Rice, S.W. La. ($/cwt) [4]	12.99	12.46	--	12.60	10.41	10.29	9.97	9.88	9.81	9.25
Corn, no. 2 yellow, 30-day, Chicago ($/bu.)	1.97	1.99	--	2.04	2.00	2.05	2.06	2.06	2.05	2.03
Sorghum, no. 2 yellow, Kansas City ($/cwt)	3.10	3.41	--	3.45	3.44	3.59	3.61	3.55	3.58	3.47
Barley, feed, Duluth ($/bu.)	--	1.47	--	1.50	1.50	1.54	1.55	1.55	1.55	1.55
Barley, malting Minneapolis ($/bu.)	--	2.37	--	2.35	2.44	2.48	2.48	2.48	2.48	2.47
U.S. cotton price, SLM, 1-1/16 in. (¢/lb.) [5]	52.36	51.56	39.68	42.19	31.23	32.21	32.13	31.60	33.23	31.86
Northern Europe prices cotton index (¢/lb.) [6]	52.85	57.25	48.04	51.24	38.13	42.85	43.39	42.59	42.01	41.61
U.S. M 1-3/32 in. (¢/lb.) [7]	59.64	62.54	52.86	55.50	42.55	43.75	44.65	43.56	46.00	45.00
Soybeans, no. 1 yellow, 15-day [8] Central Illinois ($/bu)	4.76	4.61	4.55	4.29	4.31	4.35	4.35	4.35	4.57	4.66
Soybean oil, crude, Decatur (¢/lb.)	20.50	13.68	13.70	13.53	15.23	12.38	14.82	14.15	14.75	15.31
Soybean meal, high protein, Decatur ($/ton)	165.45	178.32	172.48	158.48	166.10	154.20	158.01	153.11	160.49	161.57

-- = Not available. 1. Beginning June 1 for wheat and barley; Aug. 1 for rice and cotton; Sept. 1 for corn, sorghum, and soybeans; Oct. 1 for soymeal and oil. 2. Ordinary protein. 3. 14 percent protein. 4. Long grain, milled basis. 5. Average spot market. 6. Liverpool Cotlook "A" Index; average of 5 lowest priced growth. 7. Cotton, Memphis territory growth. 8. Soybean 30-day price discontinued. *Information contact: Wilma Davis (202) 694-5304*

Table 19—Farm Programs, Price Supports, Participation, & Payment Rates

	Marketing assistance loan rate	Marketing loan benefit [1]	Flexibility contract payment rate	Acres under contract	Contract payment yields
				Mil. acres	*Bu./acre*
Wheat		*$/bu.*			
1997/98	2.58	0.01	0.631	76.7	34.70
1998/99	2.58	0.19	0.663	78.9	34.50
1999/2000	2.58	0.41	0.637	79.0	34.50
2000/2001	2.58	--	0.588	78.9	34.50
2001/2002 [2]	2.58	--	0.474	78.2	34.60
					Cwt/acre
Rice		*$/cwt*			
1997/98	6.50	0.00	2.710	4.2	48.17
1998/99	6.50	0.08	2.921	4.2	48.17
1999/2000	6.50	1.94	2.820	4.2	48.15
2000/2001	6.50	--	2.600	4.1	48.15
2001/2002 [2]	6.50	--	2.100	4.1	48.15
					Bu./acre
Corn		*$/bu.*			
1997/98	1.89	0.01	0.486	80.9	102.80
1998/99	1.89	0.14	0.377	82.0	102.60
1999/2000	1.89	0.26	0.363	81.9	102.60
2000/2001	1.89	--	0.334	81.9	102.60
2001/2002 [2]	1.89	--	0.269	81.5	102.70
					Bu./acre
Sorghum		*$/bu.*			
1997/98	1.76	0.00	0.544	13.1	57.30
1998/99	1.74	0.12	0.452	13.6	56.90
1999/2000	1.74	0.26	0.435	13.7	56.90
2000/2001	1.71	--	0.400	13.6	57.00
2001/2002 [2]	1.71	--	0.324	13.5	57.00
					Bu./acre
Barley		*$/bu.*			
1997/98	1.57	0.01	0.277	10.5	47.20
1998/99	1.56	0.23	0.284	11.2	46.70
1999/2000	1.59	0.14	0.271	11.2	46.60
2000/2001	1.62	--	0.251	11.2	46.60
2001/2002 [2]	1.65	--	0.206	11.0	46.60
					Bu./acre
Oats		*$/bu.*			
1997/98	1.11	0.00	0.031	6.2	50.80
1998/99	1.11	0.18	0.031	6.5	50.70
1999/2000	1.13	0.19	0.030	6.5	50.60
2000/2001	1.16	--	0.028	6.5	50.60
2001/2002 [2]	1.21	--	0.022	6.5	50.60
					Bu./acre
Soybeans [3]		*$/bu.*			
1997/98	5.26	0.01	--	--	--
1998/99	5.26	0.45	--	--	--
1999/2000	5.26	0.88	--	--	--
2000/2001	5.26	--	--	--	--
2001/2002	5.26	--	--	--	--
					Lb./acre
Upland cotton		*¢/lb.*			
1997/98	51.92	0.00	7.625	16.2	608.00
1998/99	51.92	0.09	8.173	16.4	604.00
1999/2000	51.92	0.20	7.880	16.4	604.00
2000/2001	51.92	--	7.330	16.3	604.00
2001/2002 [2]	51.92	--	5.990	16.2	605.80

-- = Not available. 1. Weighted average, based on portions of crop receiving marketing loan gains, loan deficiency payments, and no benefits (calculated by Economic Research Service). 2. Estimated payment rates and acres under contract. 3. There are no flexibility contract payments for soybeans.

Information contact: Brenda Chewning, Farm Service Agency (202) 720-8838

Table 20—Fruit

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Citrus[1]										
Production (1,000 tons)	12,452	15,274	14,561	15,799	15,712	17,271	17,770	13,633	17,276	16,392
Per capita consumpt. (lb.)[2]	24.4	26.0	25.0	24.1	25.2	27.5	27.3	21.0	24.5	25.1
Noncitrus [3]										
Production (1,000 tons)	17,124	16,554	17,339	16,348	16,103	18,363	16,545	17,330	18,914	16,457
Per capita consumpt. (lb.)[2]	73.7	73.8	75.6	73.6	73.9	76.1	76.5	81.6	78.7	--

	2001						2002			
	Apr	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Grower prices										
Apples (¢/pound)[4]	15.70	17.30	21.10	24.70	23.30	22.40	21.70	21.40	21.00	21.50
Pears (¢/pound)[4]	16.85	22.90	21.65	19.80	19.05	17.10	14.10	13.80	13.35	13.35
Oranges ($/box)[5]	4.71	5.57	6.53	5.12	3.19	3.44	3.89	4.42	4.88	4.30
Grapefruit ($/box)[5]	1.41	3.69	6.89	5.29	3.06	2.30	1.98	1.70	1.23	1.02
Stocks, ending										
Fresh apples (mil. lb.)	1,891	143	2,806	5,564	4,975	4,355	3,629	2,958	2,221	1,550
Fresh pears (mil. lb.)	55	93	554	517	412	322	239	188	136	80
Frozen fruits (mil. lb.)	1,121	1,142	1,102	1,200	1,156	1,106	1,012	947	862	788
Frozen conc. orange juice (mil. single-strength gallons)	764	690	628	571	574	641	704	724	734	768

-- = Not available. 1. Year shown is when harvest concluded. 2. Fresh per capita consumption. 3. Calendar year. 4. Fresh use. 5. U.S. equivalent on-tree returns. *Information contact: Susan Pollack (202) 694-5251*

Table 21—Vegetables

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production[1]										
Total vegetables (1,000 cwt)	689,070	692,022	785,798	751,715	765,645	763,532	732,803	833,622	822,475	780,134
Fresh (1,000 cwt)[2,4]	389,597	390,528	416,173	397,125	412,010	436,459	420,012	449,683	479,223	477,212
Processed (tons)[3,4]	14,973,630	15,074,707	18,481,238	17,729,497	17,681,732	16,353,639	15,639,548	19,196,942	17,162,580	15,146,100
Mushrooms (1,000 lbs)[5]	776,357	750,799	782,340	777,870	776,677	808,678	847,760	854,394	838,611	--
Potatoes (1,000 cwt)	425,367	430,349	469,425	445,099	499,254	467,091	475,771	478,216	513,621	444,766
Sweet potatoes (1,000 cwt)	12,005	11,027	13,380	12,821	13,216	13,327	12,382	12,234	13,794	14,355
Dry edible beans (1,000 cwt)	22,615	21,862	28,950	30,689	27,912	29,370	30,418	33,085	26,409	19,541

	2001						2002			
	Apr	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Shipments (1,000 cwt)										
Fresh	24,443	22,971	16,050	21,812	20,373	19,855	24,508	20,758	21,353	25,318
Iceberg lettuce	3,167	3,510	3,122	3,735	3,214	2,842	3,381	2,546	2,467	3,651
Tomatoes, all	4,626	3,094	2,430	3,134	3,259	3,831	4,992	4,130	3,743	4,117
Dry-bulb onions	4,135	4,219	4,201	4,566	4,152	3,891	4,291	3,419	3,167	3,546
Others[6]	12,515	12,148	6,297	10,377	9,748	9,291	11,844	10,663	11,976	14,004
Potatoes, all	19,265	10,875	11,521	11,896	12,122	14,294	13,870	11,368	13,965	18,128
Sweet potatoes	309	191	305	341	695	426	287	276	399	227

-- = Not available. 1. Calendar year except mushrooms. 2. Includes fresh production of asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, & tomatoes through 1999. In 2000, greens, okra, chile peppers, pumpkins, radishes, and squash were added. 3. Includes processing production of snap beans, sweet corn, green peas, tomatoes, cucumbers (for pickles), asparagus, broccoli, carrots, and cauliflower. 4. Data after 1991 not comparable to previous years because commodity estimates reinstated in 1992 are included. 5. Fresh and processing agaricus mushrooms only. Excludes specialty varieties. Crop year July 1 - June 30. 6. Includes snap beans, broccoli, cabbage, cauliflower, celery, sweet corn, cucumbers, eggplant, bell peppers, honeydews, and watermelons. *Information contact: Gary Lucier (202) 694-5253*

Table 22—Other Commodities

	Annual		1999	2000				2001	
	1998	1999	2000	IV	I	II	III	IV	I	II
Sugar										
Production[1]	7,891	9,083	8,912	4,667	2,681	922	772	4,537	2,660	827
Deliveries[1]	9,851	10,167	10,091	2,609	2,348	2,513	2,641	2,589	2,399	2,524
Stocks, ending[1]	3,423	3,855	4,338	3,855	4,551	3,498	2,219	4,338	5,122	3,720
Coffee										
Composite green price[2] N.Y. (¢/lb.)	114.43	88.49	71.94	91.79	85.66	75.78	66.73	59.63	54.95	51.97

	Annual		2001	2001	2002					
	1999	2000	2001	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Tobacco										
Avg. price to grower[3]										
Flue-cured ($/lb.)	1.74	1.79	1.86	--	1.91	1.85	--	--	--	--
Burley ($/lb.)	1.90	1.96	1.97	--	--	1.98	1.98	1.98	1.97	1.97
Domestic taxable removals										
Cigarettes (bil.)	423.3	406.0	--	35.3	--	--	--	--	--	--
Large cigars (mil.)[4]	3,844	3,833	--	368	--	--	--	--	--	--

-- = Not available. 1. 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2. Net imports of green and processed coffee. 3. Crop year July-June for flue-cured, October-September for burley. Includes contract sales from 2001 on. 4. Includes imports of large cigars.
Information contacts: sugar and coffee, Fannye Jolly (202) 694-5249; tobacco, Tom Capehart (202) 694-5311

World Agriculture

Table 23—World Supply & Utilization of Major Crops, Livestock, & Products

	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02 F	2002/03 F
					Million units					
Wheat										
Area (hectares)	221.9	214.5	218.7	230.0	228.0	224.7	216.6	219.1	216.1	218.1
Production (metric tons)	558.6	524.0	538.4	581.9	609.2	589.7	586.2	583.9	580.6	595.8
Exports (metric tons)[1]	101.6	101.5	99.1	100.1	104.0	102.0	112.8	103.5	107.3	105.8
Consumption (metric tons)[2]	556.2	546.9	548.4	575.8	583.4	582.8	588.9	590.5	587.9	596.5
Ending stocks (metric tons)[3]	172.4	149.4	139.5	145.6	171.3	179.8	177.1	170.5	163.2	162.4
Coarse grains										
Area (hectares)	318.7	324.0	313.9	322.7	311.1	307.2	299.6	295.2	299.0	315.5
Production (metric tons)	798.9	871.3	802.9	908.5	883.8	888.9	876.1	858.0	880.1	905.2
Exports (metric tons)[1]	86.3	98.4	87.9	94.2	85.6	96.5	104.4	104.0	100.6	99.1
Consumption (metric tons)[2]	838.6	859.6	841.8	875.1	873.2	869.3	881.8	881.6	899.0	913.7
Ending stocks (metric tons)[3]	179.0	190.6	151.8	185.2	195.7	215.4	209.7	186.1	167.1	158.6
Rice, milled										
Area (hectares)	144.9	147.4	148.0	149.8	151.3	152.4	154.9	151.6	150.3	--
Production (metric tons)	355.3	364.5	371.5	380.3	386.9	394.1	408.7	397.3	396.5	--
Exports (metric tons)[1]	16.5	20.7	19.7	18.9	27.6	24.9	22.8	24.6	24.5	--
Consumption (metric tons)[2]	359.2	366.0	372.0	379.0	379.6	387.3	398.1	404.2	406.9	--
Ending stocks (metric tons)[3]	120.0	118.5	117.9	119.2	126.5	133.3	143.9	137.0	126.6	--
Total grains										
Area (hectares)	685.5	685.9	680.6	702.5	690.4	684.3	671.1	665.9	665.4	533.6
Production (metric tons)	1,712.8	1,759.8	1,712.8	1,870.7	1,879.9	1,872.7	1,871.0	1,839.2	1,857.2	1,500.9
Exports (metric tons)[1]	204.4	220.6	206.7	213.2	217.2	223.4	240.0	232.1	232.4	204.9
Consumption (metric tons)[2]	1,754.0	1,772.5	1,762.2	1,829.9	1,836.2	1,839.4	1,868.7	1,876.4	1,893.9	1,510.2
Ending stocks (metric tons)[3]	471.4	458.5	409.2	450.0	493.5	528.4	530.7	493.5	456.9	321.1
Oilseeds										
Crush (metric tons)	190.1	208.1	217.5	216.7	226.4	240.6	247.7	256.2	266.2	--
Production (metric tons)	229.4	261.9	258.9	261.4	286.6	294.7	303.4	313.4	324.1	--
Exports (metric tons)	38.7	44.1	44.3	49.6	54.0	55.0	64.6	71.7	70.4	--
Ending stocks (metric tons)	20.3	27.2	22.2	19.1	28.6	31.6	34.0	33.8	33.1	--
Meals										
Production (metric tons)	131.7	142.1	147.3	147.8	153.8	164.5	168.9	176.6	183.6	--
Exports (metric tons)	44.9	46.7	49.8	50.7	51.8	54.1	56.3	56.9	59.0	--
Oils										
Production (metric tons)	63.7	69.6	73.1	73.7	75.2	80.6	86.0	89.6	91.4	--
Exports (metric tons)	24.3	27.1	26.0	28.3	29.8	31.4	32.6	34.9	35.9	--
Cotton										
Area (hectares)	30.7	32.2	36.0	33.8	33.8	33.0	32.3	32.0	34.0	--
Production (bales)	77.1	86.0	93.1	89.7	91.9	85.3	87.5	88.7	98.0	--
Exports (bales)	26.8	28.4	27.3	26.8	26.7	23.7	27.3	26.3	29.3	--
Consumption (bales)	85.4	84.7	86.0	88.1	87.6	85.2	91.9	92.1	93.5	--
Ending stocks (bales)	26.8	29.9	36.7	40.3	44.1	45.9	42.5	40.1	44.8	--
	1993	1994	1995	1996	1997	1998	1999	2000	2001 E	2002 F
Beef and Pork[4]										
Production (metric tons)	111.6	116.7	122.1	116.6	122.1	127.1	130.3	131.1	138.9	134.9
Consumption (metric tons)	110.6	115.7	120.7	114.1	120.5	125.5	129.2	129.9	131.4	133.9
Exports (metric tons)[1]	6.6	7.2	7.4	7.7	8.4	8.1	9.0	9.2	9.3	9.7
Poultry[4]										
Production (metric tons)	40.5	43.2	47.5	50.4	53.7	54.6	57.7	59.7	61.9	62.9
Consumption (metric tons)	39.4	42.0	47.0	49.6	53.1	53.7	56.8	58.8	60.4	61.3
Exports (metric tons)[1]	2.8	3.6	4.5	5.1	5.1	5.2	5.5	5.9	6.8	7.1
Dairy										
Milk production (metric tons)[5]	--	--	--	364.4	365.6	368.4	372.0	375.9	376.3	--

-- = Not available. E = Estimated, F = forecast. 1. Excludes intra-EU trade but includes intra-FSU trade. 2. Where stocks data are not available, consumption includes stock changes. 3. Stocks data are based on differing marketing years and do not represent levels at a given date. Data not available for all countries. 4. Calendar year, selected countries. 5. Data prior to 1989 no longer comparable.

Information contacts: Crops, Ed Allen (202) 694-5288; red meat and poultry, Leland Southard (202) 694-5187; dairy, LaVerne Williams (202) 694-5190

U.S. Agricultural Trade

Table 24—Prices of Principal U.S. Agricultural Trade Products

	Annual			2001			2002			
	1999	2000	2001	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Export commodities										
Wheat, f.o.b. vessel, Gulf ports ($/bu.)	3.04	3.17	3.50	3.58	3.46	3.37	3.46	3.43	3.40	3.39
Corn, f.o.b. vessel, Gulf ports ($/bu.)	2.29	2.24	2.28	2.22	2.28	2.35	2.34	2.31	2.28	2.21
Grain sorghum, f.o.b. vessel, Gulf ports ($/bu.)	2.14	2.23	2.42	2.38	2.41	2.46	2.43	2.35	2.34	2.26
Soybeans, f.o.b. vessel, Gulf ports ($/bu.)	5.02	5.26	4.93	4.60	4.73	4.75	4.75	4.73	4.85	4.92
Soybean oil, Decatur (¢/lb.)	17.51	15.01	14.49	13.53	15.23	15.10	14.82	14.15	14.75	15.31
Soybean meal, Decatur ($/ton)	141.52	174.69	168.49	158.48	166.10	154.18	158.01	153.11	160.49	161.57
Cotton, 7-market avg. spot (¢/lb.)	52.30	57.47	39.68	42.19	31.23	32.21	32.13	31.60	33.23	31.86
Tobacco, avg. price at auction (¢/lb.)	177.82	182.73	186.21	142.03	198.03	199.53	192.51	187.45	164.45	--
Rice, f.o.b., mill, Houston ($/cwt)	16.99	14.83	14.55	15.00	13.75	12.75	12.75	12.25	11.79	12.33
Inedible tallow, Chicago (¢/lb.)	12.99	9.92	12.50	9.00	--	10.50	9.50	10.80	11.28	11.75
Import commodities										
Coffee, N.Y. spot ($/lb.)	1.05	0.92	0.55	0.71	0.42	0.42	0.43	0.43	0.48	0.50
Rubber, N.Y. spot (¢/lb.)	36.66	37.72	33.88	34.50	31.14	30.35	32.21	34.42	36.66	36.38
Cocoa beans, N.Y. ($/lb.)	0.47	0.36	0.47	0.46	0.54	0.59	0.61	0.65	0.69	0.70

-- = Not available. *Information contact: Wilma Davis (202) 694-5304*

Table 25—Trade Balance

	Fiscal year			2001				2002		
	2000	2001	2002 F	Mar	Oct	Nov	Dec	Jan	Feb	Mar
					$ million					
Exports										
Agricultural	50,744	52,735	54,500	4,866	5,249	5,257	4,682	4,686	4,658	4,436
Nonagricultural	650,907	639,131	--	59,473	50,093	47,872	45,555	43,028	42,111	50,973
Total[1]	701,651	691,866	--	64,339	55,342	53,129	50,237	47,714	46,769	55,409
Imports										
Agricultural	38,857	39,022	40,000	3,452	3,514	3,364	3,143	3,406	3,169	3,530
Nonagricultural	1,128,911	1,136,645	--	99,050	96,659	87,817	78,480	81,370	80,227	87,319
Total[2]	1,167,768	1,175,667	--	102,502	100,173	91,181	81,623	84,776	83,396	90,849
Trade balance										
Agricultural	11,887	13,713	14,500	1,414	1,735	1,893	1,539	1,280	1,489	906
Nonagricultural	-478,004	-497,514	--	-39,577	-46,566	-39,945	-32,925	-38,342	-38,116	-36,346
Total[3]	-466,117	-483,801	--	-38,163	-44,831	-38,052	-31,386	-37,062	-36,627	-35,440

F = Forecast. -- = Not available. Fiscal year (Oct. 1-Sep. 30). 1. Domestic exports including Department of Defense shipments (f.a.s. value). 2. Imports for consumption (customs value). 3. Preliminary. *Information contact: Mary Fant (202) 694-5272.*

Table 26—Indexes of Real Trade-Weighted Dollar Exchange Rates[1]

	Annual			2001			2002			
	1999	2000	2001	Oct	Nov	Dec	Jan	Feb	Mar	Apr
					1995 = 100					
Total U.S. Trade	114.2	119.0	129.2	125.0	125.9	126.6	126.9	127.7	126.8	126.6
U.S. markets										
All agricultural trade	117.5	120.2	132.3	128.1	128.3	130.0	130.1	130.8	129.8	129.8
Bulk commodities	116.6	121.2	135.4	129.6	129.3	131.1	131.0	131.6	130.6	130.4
Corn	116.3	119.2	136.5	128.5	128.9	131.9	132.1	133.0	132.2	132.6
Cotton	112.4	118.3	130.6	127.0	123.8	124.2	123.3	123.3	121.9	121.3
Rice	112.5	117.8	129.8	125.2	125.9	126.8	125.2	125.9	124.4	124.0
Soybeans	119.4	127.3	138.2	134.6	134.2	135.2	135.4	136.3	134.9	134.2
Tobacco, raw	112.8	134.3	145.3	146.2	146.2	147.4	146.8	147.8	146.1	145.3
Wheat	124.6	120.2	139.6	126.5	127.5	129.6	129.6	130.4	129.7	129.9
High-value products	118.3	119.4	129.8	126.9	127.4	129.2	129.4	130.1	129.2	129.3
Processed intermediates	115.1	120.2	132.3	126.8	126.7	127.6	127.7	128.7	127.7	127.4
Soymeal	107.2	117.0	146.3	116.4	116.0	116.1	115.6	117.6	116.7	116.6
Soyoil	98.1	105.2	109.7	107.0	105.6	105.2	104.8	104.8	104.1	103.7
Produce and horticulture	117.3	122.0	131.1	129.8	131.3	132.9	133.2	133.7	132.6	132.6
Fruits	116.8	119.2	129.6	128.3	129.8	132.1	132.3	132.6	131.7	132.1
Vegetables	113.6	114.4	121.7	120.9	123.7	125.7	125.6	125.8	124.9	125.2
High-value processed	121.4	117.8	127.3	126.1	126.7	129.2	129.6	130.1	129.2	129.7
Fruit juices	120.1	123.4	132.7	132.5	134.0	136.5	136.9	137.7	136.8	137.1
Poultry	155.0	116.9	116.9	117.7	116.0	116.5	116.7	116.6	115.8	115.6
Red meats	124.0	121.7	135.8	137.2	138.0	143.7	144.2	144.8	143.8	145.2
U.S. competitors										
All agricultural trade	122.1	135.5	142.3	141.5	141.4	140.4	141.7	143.5	142.3	141.4
Bulk commodities	130.4	134.0	140.9	141.1	139.8	138.7	140.8	143.5	143.0	143.0
Corn	120.5	134.0	140.6	138.1	140.4	141.2	149.8	160.8	165.7	169.8
Cotton	130.7	133.4	129.7	129.7	129.3	129.0	133.9	139.7	141.3	142.8
Rice	120.5	131.1	143.4	141.7	139.3	140.0	140.2	141.2	140.8	140.4
Soybeans	132.1	134.6	151.6	146.1	157.0	150.9	163.7	179.3	184.7	189.4
Tobacco, raw	127.3	121.8	123.7	125.7	119.2	114.8	112.9	114.0	111.1	108.5
Wheat	118.5	129.8	136.6	136.7	137.2	137.2	140.6	144.0	144.2	144.5
High-value products	125.2	139.1	145.6	144.8	144.9	143.9	145.3	147.2	145.9	144.8
Processed intermediates	127.1	138.2	145.9	145.3	145.4	144.3	146.7	149.6	148.9	148.5
Soymeal	132.0	136.9	152.4	148.7	156.1	150.5	161.8	175.8	180.4	183.9
Soyoil	123.3	130.0	142.2	139.4	146.0	142.6	154.6	168.9	175.1	180.3
Produce and horticulture	120.0	133.3	137.5	136.8	136.5	135.9	136.6	137.7	136.2	135.0
Fruits	123.5	135.9	145.5	143.5	141.5	141.6	141.1	141.2	139.8	138.8
Vegetables	109.2	121.7	125.3	124.2	123.0	122.3	122.4	122.7	121.5	120.2
High-value processed	125.7	141.3	147.8	147.0	147.1	146.1	147.1	148.7	147.1	145.6
Fruit juices	122.1	137.0	144.9	142.4	143.2	142.9	143.5	145.2	143.8	142.8
Poultry	121.6	134.9	144.2	141.9	142.9	140.7	141.1	142.0	140.1	138.5
Red meats	122.3	137.8	145.6	145.4	145.7	144.9	148.3	151.9	151.4	151.1
U.S. suppliers										
All agricultural trade	113.5	120.0	125.9	125.1	124.6	123.6	123.7	124.4	123.0	122.2
High-value products	111.6	118.2	123.0	122.0	122.4	121.7	122.2	122.9	121.7	121.0
Processed intermediates	114.8	121.4	127.3	126.6	127.4	127.1	127.4	128.0	126.7	126.1
Grains and feeds	113.0	117.9	124.4	123.1	124.9	125.4	125.1	125.3	124.2	123.8
Vegetable oils	120.9	130.1	138.2	138.7	138.4	137.5	137.1	137.5	136.2	135.2
Produce and horticulture	101.1	103.7	104.3	103.3	102.4	101.1	100.7	100.4	99.0	98.1
Fruits	97.2	98.0	102.7	100.3	102.9	101.0	101.9	101.6	100.3	99.4
Vegetables	84.1	81.3	79.2	79.1	78.2	77.3	76.9	76.5	75.6	74.8
High-value processed	114.9	123.7	130.1	128.9	129.7	129.1	130.3	131.8	130.7	130.1
Cocoa and products	126.1	137.6	143.1	142.8	140.8	139.6	139.7	139.7	137.6	136.9
Coffee and products	111.6	116.4	124.4	118.5	117.8	115.2	114.1	114.2	112.0	110.5
Dairy products	122.5	137.9	143.8	143.9	143.6	142.6	143.7	144.7	142.4	140.9
Fruit juices	122.3	127.8	139.2	136.7	141.1	137.5	144.3	152.8	155.0	156.8
Meats	105.6	115.4	127.7	127.4	128.4	128.3	129.2	130.1	128.8	128.3

Real indexes adjust nominal exchange rates for relative rates of inflation among countries. A higher value means the dollar has appreciated. The weights used for "total U.S. trade" index are based on U.S. total merchandise exports to the largest 85 trading partners. Weights are based on relative importance of major U.S. customers, competitors in world markets, and suppliers to the U.S. Indexes are subject to revision for up to 1 year due to delayed reporting by some countries. High-value products are total agricultural products minus bulk commodities.
Source: Nominal exchange rates are obtained from the IMF International Financial Statisitics. Exchange rates for the EU are obtained from the Board of Governors of the Federal Reserve System. Full historical series are available back to January 1970 at http://usda.mannlib.cornell.edu/data-sets/international/88021/
1. A major revision to the weighting scheme and commodity definitions was completed in May 2000. This significantly altered the series from previous versions.
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Table 27—U.S. Agricultural Exports & Imports

	Fiscal year			Mar		Fiscal year			Mar	
	2000	2001	2002 F	2001	2002	2000	2001	2002 F	2001	2002
	1,000 units					*$ million*				
Exports										
Animals, live	--	--	--	--	--	609	727	--	34	25
Meats and preps., excl. poultry (mt) [1]	2,439	2,454	1,900	212	202	5,429	5,199	4,800	458	397
Dairy products	--	--	--	--	--	998	1,118	1,100	84	82
Poultry meats (mt)	2,593	2,813	3,200	208	184	1,855	2,086	2,300	147	139
Fats, oils, and greases (mt)	1,207	1,046	1,000	92	107	421	319	--	28	36
Hides and skins, incl. furskins	--	--	--	--	--	1,428	1,943	2,100	200	164
Cattle hides, whole	--	--	--	--	--	1,117	1,446	--	136	79
Mink pelts (no.)	4,352	4,277	--	841	1,016	111	122	--	28	33
Grains and feeds (mt) [2]	103,653	98,844	--	8,718	8,877	13,789	13,830	14,400	1,231	1,220
Wheat (mt) [3]	27,838	25,187	26,000	1,929	2,102	3,384	3,238	3,600	249	284
Wheat flour (mt)	837	496	600	43	42	134	107	--	9	10
Rice (mt)	3,307	3,158	3,200	350	346	905	778	700	80	70
Feed grains, incl. products (mt) [4]	57,199	55,791	57,300	5,185	5,048	5,483	5,460	5,600	531	504
Feeds and fodders (mt)	12,951	12,741	12,500	1,094	1,204	2,483	2,775	2,800	229	228
Other grain products (mt)	1,521	1,472	--	117	135	1,400	1,471	--	133	124
Fruits, nuts, and preps. (mt)	3,748	3,969	--	418	383	3,877	4,097	4,800	343	340
Fruit juices, incl. froz. (1,000 hectoliters)	11,899	10,785	--	1,111	2,446	715	681	--	62	88
Vegetables and preps.	--	--	--	--	--	4,440	4,513	3,100	387	396
Tobacco, unmanufactured (mt)	180	176	200	15	13	1,227	1,181	1,400	92	97
Cotton, excl. linters (mt) [5]	1,473	1,656	2,200	157	224	1,809	2,080	2,200	212	209
Seeds (mt)	720	703	--	67	162	772	727	700	67	105
Sugar, cane or beet (mt)	113	98	--	7	6	40	38	--	3	2
Oilseeds and products (mt)	36,053	37,093	39,500	4,810	2,882	8,391	8,708	9,200	1,052	720
Oilseeds (mt)	--	--	--	--	--	--	--	--	--	--
Soybeans (mt)	26,045	26,659	28,000	3,660	1,736	5,071	5,106	5,100	701	334
Protein meal (mt)	6,867	7,186	--	865	806	1,258	1,419	--	168	149
Vegetable oils (mt)	2,134	2,067	--	168	231	1,349	1,175	--	94	134
Essential oils (mt)	53	55	--	6	6	592	675	--	63	72
Other	--	--	--	--	--	4,351	4,811	--	404	345
Total	--	--	--	--	--	50,744	52,735	54,500	4,866	4,436
Imports										
Animals, live	--	--	--	--	--	1,735	2,198	2,300	202	193
Meats and preps., excl. poultry (mt)	1,555	1,600	1,700	136	136	3,723	4,091	4,400	352	355
Beef and veal (mt)	1,027	1,056	--	88	86	2,405	2,645	--	223	229
Pork (mt)	402	399	--	34	34	958	1,038	--	92	81
Dairy products	--	--	--	--	--	1,653	1,727	1,700	118	143
Poultry and products	--	--	--	--	--	287	258	--	21	23
Fats, oils, and greases (mt)	105	107	--	9	8	69	63	--	6	5
Hides and skins, incl. furskins (mt)	--	--	--	--	--	160	162	--	17	13
Wool, unmanufactured (mt)	25	21	--	2	1	66	53	--	6	4
Grains and feeds	--	--	--	--	--	3,038	3,187	3,500	263	269
Fruits, nuts, and preps., excl. juices (mt) [6]	8,367	8,123	8,300	778	894	4,545	4,615	5,400	430	493
Bananas and plantains (mt)	4,396	4,093	4,100	347	365	1,128	1,156	1,200	98	105
Fruit juices (1,000 hectoliters)	32,226	29,284	28,000	2,598	2,123	783	649	--	63	50
Vegetables and preps.	--	--	--	--	--	4,660	5,182	5,400	538	536
Tobacco, unmanufactured (mt)	220	211	300	19	25	651	649	800	62	78
Cotton, unmanufactured (mt)	34	49	--	12	3	28	23	--	4	4
Seeds (mt)	458	316	--	50	45	503	444	--	71	61
Nursery stock and cut flowers	--	--	--	--	--	1,165	1,156	1,200	87	101
Sugar, cane or beet (mt)	1,368	1,382	--	62	69	484	528	--	18	27
Oilseeds and products (mt)	4,062	4,068	3,900	297	262	1,860	1,676	1,800	124	125
Oilseeds (mt)	1,090	988	--	91	55	298	267	--	33	15
Protein meal (mt)	1,205	1,150	--	106	57	152	152	--	14	8
Vegetable oils (mt)	1,767	1,930	--	100	150	1,410	1,257	--	77	101
Beverages, excl. fruit juices (1,000 hectoliters)	--	--	--	--	--	4,701	4,991	--	419	464
Coffee, tea, cocoa, spices (mt)	2,841	2,489	--	222	204	5,218	3,978	--	352	319
Coffee, incl. products (mt)	1,411	1,213	1,200	114	97	2,906	1,761	1,600	164	131
Cocoa beans and products (mt)	1,045	898	1,000	77	73	1,465	1,390	1,500	119	126
Rubber and allied gums (mt)	1,249	1,059	1,000	97	80	841	668	600	67	43
Other	--	--	--	--	--	2,686	2,725	--	232	225
Total	--	--	--	--	--	38,857	39,022	40,000	3,452	3,530

F = Forecast. -- = Not available. Projections are fiscal years (Dec.1 through Sep. 30) and are from Outlook for U.S. Agricultural Exports. 2000 and 2001 data are from *Foreign Agricultural Trade of the U.S*. 1. Projection includes beef, pork, and variety meat. 2. Projection includes pulses. 3. Value projection includes wheat flour. 4. Projection excludes grain products. 5. Projection includes linters. 6. Value projection includes juice.

Information contact: Mary Fant (202) 694-5272.

Table 28—U.S. Agricultural Exports by Region

Region and country	Fiscal year 2000	Fiscal year 2001	Fiscal year 2002 F	2001 Mar	2001 Oct	2001 Nov	2001 Dec	2002 Jan	2002 Feb	2002 Mar
					$ million					
Western Europe	6,532	6,771	7,000	574	734	929	774	734	814	555
European Union[1]	6,193	6,259	6,600	528	699	724	728	667	710	494
Belgium-Luxembourg	514	625	--	63	57	80	54	59	78	40
France	348	352	--	29	38	36	68	61	36	32
Germany	910	906	--	73	113	72	87	105	91	80
Italy	559	508	--	42	70	58	70	42	92	37
Netherlands	1,388	1,397	--	113	125	183	167	142	156	131
United Kingdom	1,028	1,049	--	87	93	129	108	72	92	77
Portugal	134	138	--	8	18	22	20	40	21	10
Spain, incl. Canary Islands	641	591	--	49	99	91	86	93	88	31
Other Western Europe	340	512	400	46	35	205	46	66	105	60
Switzerland	250	422	--	41	25	197	38	62	99	54
Eastern Europe	168	190	200	24	14	30	34	16	22	14
Poland	47	83	--	12	5	6	12	3	4	3
Former Yugoslavia	67	34	--	5	2	12	13	3	6	2
Romania	12	24	--	1	2	4	4	5	7	2
Former Soviet Union	921	1,029	1,300	47	128	131	87	105	80	65
Russia	659	823	1,100	40	96	113	69	91	68	51
Asia	21,917	22,313	23,100	2,296	2,186	2,075	1,922	1,989	1,947	1,867
West Asia (Mideast)	2,364	2,194	2,100	177	310	207	194	203	264	205
Turkey	701	569	600	55	81	56	37	72	81	73
Iraq	8	8	--	2	--	--	--	--	--	--
Israel, incl. Gaza and W. Bank	459	436	--	40	48	30	51	54	47	33
Saudi Arabia	481	470	500	33	22	31	36	18	52	28
South Asia	415	571	700	25	90	83	92	66	66	68
Bangladesh	82	105	--	7	28	13	16	8	22	28
India	185	294	--	13	40	40	42	26	24	19
Pakistan	93	97	--	5	13	19	25	28	19	13
China	1,465	1,884	2,300	396	220	228	182	264	220	77
Japan	9,301	8,952	9,000	843	773	757	682	756	666	688
Southeast Asia	2,580	2,922	2,900	296	290	288	247	231	283	274
Indonesia	675	879	900	89	96	46	67	34	96	60
Philippines	866	836	800	79	67	90	56	83	61	85
Other East Asia	5,791	5,791	6,100	559	502	512	525	470	448	555
Korea, Rep.	2,531	2,551	2,800	247	202	233	239	247	238	245
Hong Kong	1,249	1,253	1,300	115	126	118	99	77	83	101
Taiwan	2,002	1,981	2,000	197	175	161	186	146	127	208
Africa	2,236	2,125	2,100	167	208	226	181	186	218	220
North Africa	1,522	1,467	1,500	112	129	181	123	127	159	166
Morocco	139	120	--	8	4	9	17	27	13	11
Algeria	254	211	--	13	26	28	25	19	23	37
Egypt	1,056	1,008	1,100	82	89	132	71	59	111	103
Sub-Sahara	715	659	600	55	79	45	58	60	59	54
Nigeria	160	233	--	20	26	13	23	21	28	17
S. Africa	165	108	--	10	7	5	8	6	11	14
Latin America and Caribbean	10,614	11,564	11,600	1,037	1,091	1,022	971	931	885	981
Brazil	253	219	200	16	23	22	23	18	19	24
Caribbean Islands	1,463	1,399	1,300	124	134	138	112	120	121	133
Central America	1,132	1,185	1,100	106	108	139	99	94	86	111
Colombia	427	442	400	36	39	30	44	48	35	49
Mexico	6,307	7,283	7,600	681	696	605	604	577	544	613
Peru	200	182	--	11	27	17	18	14	19	11
Venezuela	405	416	400	23	33	34	29	22	24	16
Canada	7,512	7,989	8,500	678	765	731	651	682	647	702
Oceania	487	471	500	42	51	46	35	44	43	33
Total	50,744	52,735	54,500	4,866	5,249	5,257	4,682	4,686	4,658	4,436

F = Forecast. -- = Not available. Based on fiscal year beginning Oct. 1 and ending Sep. 30. 1. Austria, Finland, and Sweden are included in the European Union. Note: Adjusted for transhipments through Canada for 1998 and 1999 through December 1999, transhipments are not distributed by country for 2001 and 2002, but are only included in total. *Information contact: Mary Fant (202) 694-5272.*

Farm Income

Table 29—Value Added to the U.S. Economy by the Agricultural Sector

		1998	1999	2000	2001F	01/07/02 2002F	1992-2001 average
				$ billion			
	Final crop output	101.5	93.2	95.3	97.3	98.9	98.3
	Food grains	8.8	7.0	6.6	6.5	6.6	8.7
	Feed crops	22.7	19.6	20.0	20.9	21.9	22.3
	Cotton	6.1	4.7	4.6	4.4	3.7	5.7
	Oil crops	17.4	13.6	13.9	14.1	14.7	15.2
	Tobacco	2.8	2.3	2.3	2.1	2.1	2.6
	Fruits and tree nuts	11.6	12.3	12.7	13.0	13.3	11.7
	Vegetables	15.2	15.2	15.9	16.2	16.4	14.6
	All other crops	17.2	17.9	18.2	18.7	19.0	16.2
	Home consumption	0.1	0.1	0.1	0.1	0.2	0.1
	Value of inventory adjustment[1]	-0.3	0.4	1.0	1.3	0.9	--
	Final animal output	94.2	95.3	99.3	106.0	106.8	94.0
	Meat animals	43.3	45.6	53.0	53.1	53.8	47.9
	Dairy products	24.1	23.2	20.6	24.7	22.4	21.5
	Poultry and eggs	22.9	22.9	21.8	24.2	26.1	20.7
	Miscellaneous livestock	3.7	3.8	4.1	4.1	4.1	3.5
	Home consumption	0.3	0.4	0.4	0.4	0.4	0.4
	Value of inventory adjustment[1]	-0.3	-0.6	-0.6	-0.5	0.0	--
	Services and forestry	23.7	25.4	24.0	24.2	24.2	21.1
	Machine hire and customwork	2.2	2.0	2.2	2.3	2.3	2.1
	Forest products sold	3.1	2.7	2.8	2.8	2.8	2.7
	Other farm income	8.7	10.2	8.7	8.7	8.5	6.8
	Gross imputed rental value of farm dwellings	9.8	10.4	10.4	10.5	10.6	9.5
	Final agricultural sector output [2]	219.5	213.8	218.6	227.5	229.9	213.4
Minus	Intermediate consumption outlays:	118.6	119.6	122.4	126.6	127.8	113.0
	Farm origin	44.8	45.6	47.7	49.6	50.6	44.0
	Feed purchased	25.0	24.5	24.5	26.3	28.3	24.0
	Livestock and poultry purchased	12.6	13.8	15.8	15.5	14.5	13.7
	Seed purchased	7.2	7.2	7.3	7.8	7.8	6.3
	Manufactured inputs	28.2	27.1	28.7	29.4	28.8	26.8
	Fertilizers and lime	10.6	9.9	10.0	11.1	10.6	9.9
	Pesticides	9.0	8.6	8.5	8.5	8.6	8.0
	Petroleum fuel and oils	5.6	5.6	7.2	6.7	6.5	5.9
	Electricity	2.9	3.0	3.0	3.1	3.1	2.9
	Other intermediate expenses	45.6	46.9	46.0	47.7	48.4	42.2
	Repair and maintenance of capital items	10.4	10.5	10.8	11.2	11.6	10.0
	Machine hire and customwork	5.4	5.3	5.0	5.2	5.2	4.8
	Marketing, storage, and transportation	6.9	7.3	7.5	7.9	8.0	6.8
	Contract labor	2.4	2.5	2.7	2.8	2.9	2.2
	Miscellaneous expenses	20.6	21.4	20.0	20.6	20.7	18.4
Plus	Net government transactions:	4.9	14.2	15.5	13.7	3.1	5.9
	+ Direct government payments	12.4	21.5	22.9	21.1	10.7	13.0
	- Motor vehicle registration and licensing fees	0.5	0.4	0.5	0.5	0.5	0.4
	- Property taxes	7.0	6.8	6.9	6.9	7.1	6.7
	Gross value added	105.7	108.4	111.7	114.6	105.3	106.3
Minus	Capital consumption	20.0	20.3	20.6	20.2	20.4	19.4
	Net value added [2]	85.8	88.1	91.1	94.4	84.9	86.8
Minus	Factor payments:	42.9	43.8	44.7	45.1	44.3	40.4
	Employee compensation (total hired labor)	16.9	17.5	17.3	18.1	18.7	15.4
	Net rent received by nonoperator landlords	12.7	12.8	13.2	12.4	11.5	12.2
	Real estate and non-real estate interest	13.4	13.6	14.1	14.6	14.1	12.8
	Net farm income[2]	42.9	44.3	46.4	49.3	40.6	46.4

F = forecast. P = preliminary. -- = not available. Numbers may not add due to rounding. 1. A positive value of inventory change represents current-year production not sold by December 31. A negative value is an offset to production from prior years included in current-year sales. 2. Final sector output is the gross value of commodities and services produced within a year. Net value added is the sector's contribution to the National economy. Net farm income is farm operators' share of income from the sector's production activities. The concepts presented are consistent with those employed by the Organization for Economic Cooperation and Development (OECD).

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To confirm that this table contains the current forecast, go to http://www.ers.usda.gov/data/farmincome/finfidmu.htm

Table 30—Farm Income Statistics

	1998	1999	2000	2001F	2002F	1992-2001 avg.
			$ billion			
Cash income statement						
1. Cash receipts	195.8	188.1	193.6	201.9	204.3	190.5
Crops[1]	101.7	92.6	94.1	95.8	97.9	96.9
Livestock	94.1	95.5	99.5	106.1	106.4	93.6
2. Direct Government payments[2]	12.4	21.5	22.9	21.1	10.7	13.0
3. Farm-related income[3]	13.9	15.0	13.6	13.7	13.6	11.6
4. Gross cash income (1+2+3)	222.1	224.6	230.1	236.7	228.6	215.2
5. Cash expenses[4]	167.4	168.9	172.6	177.2	177.6	159.0
6. Net cash income[5] (4-5)	54.8	55.7	57.5	59.5	50.9	56.1
Farm income statement						
7. Gross cash income (1+2+3)	222.1	224.6	230.1	236.7	228.6	215.2
8. Noncash income[6]	10.3	10.9	11.0	11.1	11.2	10.0
9. Value of inventory adjustment	-0.6	-0.2	0.5	0.9	0.9	--
10. Gross farm income (7+8+9)	231.8	235.3	241.5	248.6	240.6	226.4
11. Total production expenses	189.0	191.0	195.1	199.4	200.0	180.0
12. Net farm income (10-11)	42.9	44.3	46.4	49.3	40.6	46.4

F = forecast. -- = Not available. Numbers may not add due to rounding. 1. Includes commodities placed under CCC loans and profits made on loans redeemed. 2. Direct government payments include only payments made directly to farmers, including realized marketing loan gains. In publications prior to May of 2001, marketing loan gains were included in cash receipts rather than in Government payments. 3. Income from custom labor, machine hire, recreational activities, forest product sales, and other farm sources. 4. Excludes depreciation and perquisites to hired labor. 5. Excludes farm operator dwellings. 6. Value of farm products consumed on farms where produced plus the imputed rental value of farm dwellings.

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The current farm income forecast and historical statistics can always be found at http://www.ers.usda.gov/Briefing/FarmIncome/

To confirm that this table contains the current forecast, go to http://www.ers.usda.gov/data/farmincome/finfidmu.htm

Table 31—Average Income to Farm Operator Households[1]

	1998	1999	2000[2]	2001F	2002F
			$ per farm		
Net cash farm business income[3]	14,357	13,194	11,175	10,888	8,006
Less depreciation[4]	7,409	7,027	7,357	--	--
Less wages paid to operator[5]	637	499	608	--	--
Less farmland rental income[6]	543	802	757	--	--
Less adjusted farm business income due to other household(s)[7]	1,332	1,262	801	--	--
			$ per farm operator household		
Equals adjusted farm business income	4,436	3,603	*1,652	--	--
Plus wages paid to operator	637	499	608	--	--
Plus net income from farmland rental[8]	868	1,312	n.a.	--	--
Equals farm self-employment income	5,941	5,415	*2,260	--	--
Plus other farm-related earnings[9]	1,165	944	339	--	--
Equals earnings of the operator household from farming activities	7,106	6,359	2,598	2,447	-198
Plus earnings of the operator household from off-farm sources[10]	52,628	57,988	59,349	59,943	59,343
Equals average farm operator household income comparable to U.S. average household income, as measured by the CPS	59,734	64,347	61,947	62,390	59,145
			$ per U.S. household		
U.S. average household income[11]	51,855	54,842	57,045	--	--
			Percent		
Average farm operator household income as percent of U.S. average household income	115.2	117.3	108.6	--	--
Average operator household earnings from farming activities as percent of average operator household income	11.9	9.9	4.2	--	--

P=preliminary. F = forecast. -- = Not available. * = The relative standard error exceeds 25 percent, but is no more than 50 percent.

1. This table derives farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology. The CPS, conducted by the Census Bureau, is the source of official U.S. household income statistics. The CPS defines income to include any income received as cash. The CPS definition departs from a strictly cash concept by including depreciation as an expense that farm operators and other self-employed people subtract from gross receipts when reporting net cash income. 2. Prior to 2000, net cash income from operating another farm and net cash income from farm land rental were included in earnings from farming activities. However, because of a change in the ARMS survey design, net cash income from a farm other than the one being surveyed and net cash income from farm land rental are not separable from total off-farm income. Although there is no effect upon estimates of farm operator household income in 2000, estimates of farm self-employment, other farm related earnings, earnings of the household from farming activities, and earnings of the farm from off-farm sources are not strictly comparable to those from previous years.
3. A component of farm sector income. Excludes incomes of contractors and landlords as well as the income of farms organized as nonfamily corporations or cooperatives and farms run by a hired manager. Includes the income of farms organized as proprietorships, partnerships, and family corporations.
4. Consistent with the CPS definition of self-employment income, reported depreciation expenses are subtracted from net cash income. The ARMS collects farm business depreciation used for tax purposes. 5. Wages paid to the operator are subtracted here because they are not shared among other households that have claims on farm business income. These wages are added to the operator household's adjusted farm business income to obtain farm self-employment income.
6. Gross rental income is subtracted here because net rental income from the farm operation is added below to income received by the household. 7. More than one household may have a claim on the income of a farm business. On average, 1.1 households share the income of a farm business. 8. Includes net rental income from the business. Also includes net rental income from farmland held by household members that is not part of the farm business. Beginning in 2000, net income from farmland rental is considered as part of off-farm income. (See footnote 2.) 9. Wages paid to other operator household members by the farm business and net income from a farm business other than the one being surveyed. In 2000, however, net income from a farm business other than the one being surveyed is included in off-farm earnings. (See footnote 2.) Beginning in 1996, also includes the value of commodities provided to household members for farm work.
10. Wages, salaries, net income from nonfarm businesses, interest, dividends, transfer payments, etc. Beginning in 2000, also includes net cash income from another farm and net cash income from farm rental. (See footnote 2.) 11. From the CPS.

Sources: U.S. Dept. of Agriculture, Economic Research Service, 1998, 1999, and 2000 Agricultural Resource Management Study (ARMS) for farm operator household data. U.S. Dept. of Commerce, Bureau of the Census, Current Population Survey (CPS), for U.S. average household income.

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Table 32—Balance Sheet of the U.S. Farming Sector

	1998	1999	2000	2001F	2002F
			$ billion		
Farm assets	1,085.3	1,140.8	1,188.3	1,216.6	1,228.1
Real estate	840.4	886.4	929.5	957.3	968.8
Livestock and poultry [1]	63.4	73.2	76.8	76.3	77.7
Machinery and motor vehicles	91.7	92.3	92.0	92.0	93.0
Crops stored [2,3]	29.9	28.3	27.9	29.2	28.0
Purchased inputs	5.0	4.0	4.9	4.6	4.6
Financial assets	54.8	56.6	57.1	57.1	56.0
Total farm debt	172.9	176.4	184.0	192.8	196.5
Real estate debt [3]	89.6	94.2	97.5	103.1	104.6
Non-real estate debt [4]	83.2	82.2	86.5	89.8	91.9
Total farm equity	912.4	964.4	1,004.3	1,023.8	1,031.6
			Percent		
Selected ratios					
Debt to equity	18.9	18.3	18.3	18.8	19.1
Debt to assets	15.9	15.5	15.5	15.8	16.0

F = forecast. P = preliminary. Numbers may not add due to rounding. 1. As of December 31. 2. Non-CCC crops held on farms plus value above loan rates for crops held under CCC. 3. Includes CCC storage and drying facilities loans, but excludes debt on operator dwellings. 4. Excludes debt for nonfarm purposes.

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Note: The current farm income and balance sheet forecasts can always be found at http://www.ers.usda.gov/Briefing/FarmIncome/

Table 33—Cash Receipts from Farming

	Annual			2001					2002	
	1999	2000	2001	Feb	Sep	Oct	Nov	Dec	Jan	Feb
					$ million					
Commodity cash receipts [1]	188,132	193,586	201,052	13,253	17,904	21,895	19,742	18,367	17,216	12,900
Livestock and products	95,547	99,473	106,433	8,084	8,580	9,754	9,060	9,336	8,539	7,665
Meat animals	45,614	52,994	53,289	4,104	4,356	5,236	4,319	5,019	4,443	4,080
Dairy products	23,207	20,622	24,695	1,940	1,964	2,028	2,002	2,099	1,917	1,810
Poultry and eggs	22,898	21,789	24,617	1,810	1,920	2,245	2,211	1,981	1,890	1,544
Other	3,828	4,067	3,833	230	340	244	528	237	289	230
Crops	92,585	94,113	94,619	5,169	9,323	12,141	10,682	9,031	8,676	5,235
Food grains	6,965	6,639	6,353	300	557	485	387	435	584	285
Feed crops	19,622	19,960	22,821	1,247	2,202	3,012	2,636	2,295	2,907	1,163
Cotton (lint and seed)	4,698	4,555	3,835	188	207	570	762	677	460	188
Tobacco	2,273	2,315	1,881	111	357	97	280	226	213	39
Oil-bearing crops	13,608	13,857	14,144	754	1,411	3,614	1,740	1,124	1,634	723
Vegetables and melons	15,236	15,889	15,670	950	1,763	1,434	1,153	1,037	1,060	1,160
Fruits and tree nuts	12,287	12,692	11,769	491	1,180	1,217	1,478	1,434	673	554
Other	17,894	18,206	18,145	1,127	1,647	1,712	2,245	1,804	1,145	1,122
Government payments	21,513	22,896	--	1,192	--	--	--	--	--	--
Total	209,645	216,482	201,052	14,445	17,904	21,895	19,742	18,367	17,216	12,900

-- = Not available. Annual values for the most recent year and monthly values for current year are preliminary and were estimated as of the 20th of the month prior to publication. 1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period.

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Table 34—Cash Receipts from Farm Marketings, by State

Region and State	Livestock and products				Crops[1]				Total[1]			
	2000	2001P	Jan 2002	Feb 2002	2000	2001P	Jan 2002	Feb 2002	2000	2001P	Jan 2002	Feb 2002
	$ million											
North Atlantic												
Maine	262	274	24	22	242	186	15	21	504	460	40	44
New Hampshire	60	66	6	5	94	89	6	6	154	155	11	11
Vermont	441	490	41	37	67	66	3	3	508	557	44	41
Massachusetts	91	94	8	7	301	278	11	11	392	372	19	18
Rhode Island	8	8	1	1	40	40	2	2	48	47	3	3
Connecticut	165	177	14	12	337	303	16	16	503	481	30	28
New York	1,934	2,221	179	166	1,189	1,187	69	63	3,123	3,408	248	229
New Jersey	193	204	14	7	619	618	24	23	812	822	38	31
Pennsylvania	2,781	3,144	190	226	1,252	1,317	113	108	4,033	4,461	303	334
North Central												
Ohio	1,751	1,864	145	128	2,654	2,807	286	164	4,405	4,670	431	292
Indiana	1,695	1,870	121	127	2,886	3,203	429	177	4,581	5,073	550	304
Illinois	1,710	1,843	116	133	5,312	5,702	1,046	359	7,022	7,544	1,163	492
Michigan	1,335	1,489	113	110	2,140	1,950	147	101	3,475	3,439	260	211
Wisconsin	3,804	4,464	353	320	1,416	1,415	93	64	5,221	5,879	446	385
Minnesota	3,875	4,288	321	319	3,647	3,628	352	141	7,522	7,917	674	460
Iowa	5,747	5,936	420	438	5,027	5,406	581	216	10,774	11,342	1,001	655
Missouri	2,677	2,719	207	224	1,890	2,075	259	105	4,567	4,794	466	329
North Dakota	639	720	80	64	2,050	2,200	225	107	2,689	2,920	305	171
South Dakota	2,035	2,255	201	177	1,755	1,775	132	95	3,790	4,031	333	271
Nebraska	5,923	6,086	487	460	3,029	3,319	434	191	8,952	9,405	921	651
Kansas	5,488	5,536	551	544	2,417	2,550	300	98	7,905	8,085	852	642
Southern												
Delaware	557	662	48	45	184	185	7	8	741	847	55	54
Maryland	848	949	65	71	625	644	31	30	1,473	1,593	96	102
Virginia	1,549	1,672	133	128	732	762	44	31	2,281	2,434	177	159
West Virginia	339	348	29	27	51	60	5	4	391	408	33	31
North Carolina	4,275	4,644	331	316	3,135	2,966	143	119	7,410	7,610	474	434
South Carolina	792	882	70	66	752	728	36	26	1,544	1,610	106	92
Georgia	3,105	3,540	287	230	1,945	1,807	78	48	5,050	5,347	365	277
Florida	1,378	1,458	134	109	5,573	5,206	601	596	6,951	6,664	734	705
Kentucky	2,335	2,228	174	129	1,271	1,280	259	84	3,605	3,507	432	212
Tennessee	990	1,127	87	85	1,030	995	131	49	2,020	2,122	218	134
Alabama	2,684	2,815	228	179	588	638	50	24	3,272	3,452	277	203
Mississippi	2,037	2,276	186	156	886	925	132	47	2,922	3,201	318	203
Arkansas	3,248	3,507	285	244	1,639	1,446	163	64	4,887	4,953	448	308
Louisiana	653	701	60	68	1,167	1,086	156	39	1,820	1,787	216	106
Oklahoma	3,441	3,153	261	97	779	852	59	28	4,220	4,005	320	125
Texas	9,162	9,346	868	646	4,181	4,251	341	196	13,344	13,597	1,209	842
Western												
Montana	1,102	1,128	87	76	704	632	63	43	1,806	1,760	150	120
Idaho	1,628	2,060	181	159	1,761	1,761	146	108	3,389	3,821	327	266
Wyoming	795	837	55	99	160	142	8	5	954	979	62	104
Colorado	3,332	3,374	255	266	1,229	1,306	130	80	4,561	4,681	386	346
New Mexico	1,613	1,670	159	79	473	529	30	19	2,086	2,200	188	98
Arizona	1,063	1,166	94	82	1,226	1,348	261	254	2,290	2,513	354	336
Utah	770	853	72	68	240	262	17	14	1,010	1,115	90	82
Nevada	237	271	22	20	149	153	16	9	386	425	38	29
Washington	1,710	1,728	139	120	3,339	3,457	249	229	5,050	5,185	388	348
Oregon	826	825	67	57	2,223	2,270	120	112	3,049	3,095	187	170
California	6,269	7,346	562	508	19,241	18,372	826	866	25,510	25,719	1,388	1,374
Alaska	32	28	2	2	20	24	1	1	52	52	4	4
Hawaii	87	91	8	7	444	418	32	28	530	509	40	36
U.S.	99,473	106,433	8,539	7,665	94,113	94,619	8,676	5,235	193,586	201,052	17,216	12,900

Annual values for the most recent year are preliminary and were estimated as of the 20th of the month prior to publication. Totals may not add because of rounding. 1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period.

Information contact: Larry Traub (202) 694-5593, ltraub@ers.usda.gov. To receive current monthly cash receipts via e-mail, contact Larry Traub.

Table 35—CCC Net Outlays by Commodity & Function

	Fiscal year									
	1994	1995	1996	1997	1998	1999	2000	2001	2002 [4]	2003 [4]
	$ million									
Commodity/Program										
Feed grains:										
Corn	625	2,090	2,021	2,587	2,873	5,402	10,136	6,297	3,241	1,803
Grain sorghum	130	153	261	284	296	502	979	478	206	202
Barley	202	129	114	109	168	224	397	217	97	85
Oats	5	19	8	8	17	41	61	36	14	8
Corn and oat products	10	1	0	0	0	0	6	8	12	0
Total feed grains	972	2,392	2,404	2,988	3,354	6,169	11,579	7,036	3,570	2,098
Wheat and products	1,729	803	1,491	1,332	2,187	3,435	5,321	2,922	1,383	1,053
Rice	836	814	499	459	491	911	1,774	1,423	1,058	1,029
Upland cotton	1,539	99	685	561	1,132	1,882	3,809	1,868	3,657	1,729
Tobacco	693	-298	-496	-156	376	113	657	386	-95	-96
Dairy	158	4	-98	67	291	480	684	1,140	57	48
Soybeans	-183	77	-65	5	139	1,289	2,840	3,281	3,420	2,352
Peanuts	37	120	100	6	-11	21	35	136	-17	0
Sugar	-24	-3	-63	-34	-30	-51	465	31	-295	-44
Honey	0	-9	-14	-2	0	2	7	23	-3	0
Wool and mohair	211	108	55	0	0	10	-2	38	-1	0
Operating expense [1]	6	6	6	6	5	4	60	5	6	6
Interest expenditure	-17	-1	140	-111	76	210	736	428	228	228
Export programs [2]	1,950	1,361	-422	125	212	165	216	-2,047	649	556
1988-2000 Disaster/tree/ livestock assistance	2,566	660	95	130	3	2,241	1,452	2,326	128	0
Conservation Reserve Program	0	0	2	1,671	1,693	1,462	1,511	1,658	1,821	1,856
Other conservation programs	0	0	7	105	197	292	263	288	286	263
Other	-137	-103	320	104	28	588	858	1,163	1,590	547
Total	10,336	6,030	4,646	7,256	10,143	19,223	32,265	22,105	17,442	11,625
Function										
Price support loans (net)	527	-119	-951	110	1,128	1,455	3,369	3,189	5,303	3,741
Cash direct payments: [3]										
Production flexibility contract	0	0	5,141	6,320	5,672	5,476	5,057	4,105	3,962	3,980
Market loss assistance	0	0	0	0	0	3,011	11,046	5,455	113	0
Deficiency	4,391	4,008	567	-1,118	-7	-3	1	-1	0	0
Loan deficiency	495	29	0	0	478	3,360	6,419	5,293	5,201	2,918
Oilseed	0	0	0	0	0	0	460	921	0	0
Cotton user marketing	149	88	34	6	416	280	446	237	87	4
Other	22	9	61	1	0	1	461	820	18	1
Conservation Reserve Program	0	0	2	1,671	1,693	1,435	1,476	1,625	1,804	1,856
Other conservation programs	0	0	0	85	156	247	215	229	244	217
Noninsured Assistance (NAP)	0	0	2	52	23	54	38	64	156	199
Total direct payments	5,057	4,134	5,807	7,017	8,431	13,861	25,619	18,748	11,585	9,175
1988-2000 crop disaster	2,461	577	14	2	-2	1,913	1,251	1,848	94	0
Emergency livestock/tree/DRAP livestock indemn./forage assist.	105	83	81	128	5	328	201	478	34	0
Purchases (net)	293	-51	-249	-60	207	668	120	-1,310	-1,459	-2,569
Producer storage payments	12	23	0	0	0	0	0	0	0	0
Processing, storage, and transportation	112	72	51	33	38	62	81	122	139	118
Export donations ocean transportation	156	50	69	34	40	323	370	362	320	7
Operating expense [1]	6	6	6	6	5	4	60	5	6	6
Interest expenditure	-17	-1	140	-111	76	210	736	428	228	228
Export programs [2]	1,950	1,361	-422	125	212	165	216	-2,047	649	556
Other	-326	-105	100	-28	3	234	242	282	543	363
Total	10,336	6,030	4,646	7,256	10,143	19,223	32,265	22,105	17,442	11,625

1. Does not include CCC Transfers to General Sales Manager. 2. Includes Export Guarantee Program, Direct Export Credit Program, CCC Transfers to the General Sales Manager, Market Access (Promotion) Program, starting in FY 1991 and starting in FY 1992 the Export Guarantee Program - Credit Reform, Export Enhancement Program, Dairy Export Incentive Program, and Technical Assistance to Emerging Markets, and starting in FY 2000 Foreign Market Development Cooperative Program and Quality Samples Program. 3. Includes cash payments only. Excludes generic certificates in FY 1986-96. 4. Estimated in FY 2003 President's Budget which was released on February 4, 2002 based on October 2001 supply & demand estimates. The CCC outlays shown for 1996-2002 include the impact of the Federal Agriculture Improvement and Reform Act of 1996, which was enacted on April 4, 1996, and FY 2000-FY 2003 outlays include the impact of the Agricultural Risk Protection Act of 2000, which was enacted on June 20, 2000. FY 2001 outlays include the impact of the $5.5 billion of payments mandated by P.L. 107-25.
Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds).
Information contact: Richard Pazdalski, Farm Service Agency at (202) 720-3675, Richard_Pazdalski@wdc.fsa.usda.gov

Food Expenditures

Table 36—Food Sales

	Annual			2002			Year-to-date cumulative		
	1999	2000	2001	Feb	Mar	Apr	Feb	Mar	Apr
				$ billion					
Sales[1]									
At home[2]	409.2	424.2	437.0	34.5	38.9	35.6	71.0	109.9	145.5
Away from home[3]	331.0	348.8	366.0	29.0	32.7	32.0	58.0	90.7	122.7
				2001 $ billion					
Sales[1]									
At home[2]	432.1	438.1	437.0	34.0	38.3	35.0	70.0	108.3	143.3
Away from home[3]	348.6	358.9	366.0	28.5	32.1	31.4	57.1	89.2	120.6
				Percent change from year earlier ($ billion)					
Sales[1]									
At home[2]	6.4	3.7	3.0	1.0	3.6	-2.4	1.1	2.0	0.9
Away from home[3]	5.0	5.4	4.9	5.6	5.0	6.5	5.1	5.1	5.4
				Percent change from year earlier (2001 $ billion)					
Sales[1]									
At home[2]	4.4	1.4	-0.3	-0.5	1.9	-4.1	-0.3	0.5	-0.7
Away from home[3]	2.4	3.0	2.0	3.8	3.1	4.5	3.4	3.3	3.6

-- = Not available. 1. Food only (excludes alcoholic beverages). Not seasonally adjusted. 2. Excludes donations and home production. 3. Excludes donations, child nutrition subsidies, and meals furnished to employees, patients, and inmates.

Information contact: Annette Clauson (202) 694-5389

Note: This table differs from Personal Consumption Expenditures (PCE), table 2, for several reasons: (1) this series includes only food, excluding alcoholic beverages and pet food which are included in PCE; (2) this series is not seasonally adjusted, whereas PCE is seasonally adjusted at annual rates; (3) this series reports sales only, but PCE includes food produced and consumed on farms and food furnished to employees; (4) this series includes all sales of meals and snacks, while PCE includes only purchases using personal funds, excluding business travel and entertainment. For a more complete discussion of the differences, see "Developing an Integrated Information System for the Food Sector," ERS Ag. Econ. Rpt. No. 575, Aug. 1987, available at http://www.ers.usda.gov/publications/aer575/

Transportation

Table 37—Rail Rates; Grain & Fruit-Vegetable Shipments

	Annual			2001			2002			
	1999	2000	2001	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Rail freight rate index[1] (Dec. 1984=100)										
All products	113.0	114.5	116.6	115.7	117.9	118.0	119.9	118.9	118.6	118.4
Farm products	121.7	123.1	124.5	123.9	125.8	125.2	124.9	124.9	124.9	124.2
Grain food products	99.7	100.4	102.8	102.6	103.4	103.1	103.2	103.1	103.2	103.1
Grain shipments										
Rail carloadings (1,000 cars)[2]	24.2	21.8	21.6	20.7	23.1	20.6	22.3	22.5	20.5	19.7
Barge shipments (mil. ton)[3]	3.5	3.1	2.9	2.5	3.9	3.7	1.2	2.0	2.9	3.6
Fresh fruit and vegetable shipments[4]										
Piggyback (mil. cwt)	0.7	0.8	0.8	0.7	0.8	0.6	0.8	0.6	0.7	0.8
Rail (mil. cwt)	1.1	1.4	1.4	1.1	1.7	1.7	1.7	1.0	1.5	1.2
Truck (mil. cwt)	45.2	45.0	44.0	47.8	40.5	41.6	37.9	35.9	45.0	47.6

-- = Not available. 1. Department of Labor, Bureau of Labor Statistics. 2. Weekly average; from Association of American Railroads. 3. Shipments on Illinois and Mississippi waterways, U.S. Corps of Engineers. 4. Annual data are monthly average. Agricultural Marketing Service, USDA.

Information contact: Allen Baker (202) 694-5290

Indicators of Farm Productivity

Table 38—Indexes of Farm Production, Input Use, & Productivity[1]

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
					1992 = 100					
Farm output	88	83	89	94	94	100	94	107	101	106
All livestock products	92	93	94	95	98	100	100	108	110	109
Meat animals	95	97	97	96	99	100	100	102	103	100
Dairy products	94	96	95	98	98	100	99	114	115	115
Poultry and eggs	81	83	86	92	96	100	104	110	114	119
All crops	86	75	86	92	92	100	90	106	96	103
Feed crops	84	62	85	88	86	100	76	102	83	98
Food crops	84	76	83	107	82	100	96	97	90	93
Oil crops	88	72	88	87	94	100	85	115	99	107
Sugar	95	91	91	92	96	100	95	106	98	94
Cotton and cottonseed	92	96	75	96	109	100	100	122	110	117
Vegetables and melons	90	81	85	93	97	100	97	113	108	112
Fruit and nuts	95	102	98	97	96	100	107	111	102	102
Farm input[1]	101	100	100	101	102	100	101	102	101	100
Farm labor	101	103	104	102	106	100	96	96	92	100
Farm real estate	100	100	102	101	100	100	98	99	98	99
Durable equipment	120	113	108	105	103	100	97	94	92	89
Energy	102	102	101	100	101	100	100	103	109	104
Fertilizer	106	97	94	97	98	100	111	109	85	89
Pesticides	92	79	93	90	100	100	97	103	94	106
Feed, seed, and purchased livestock	97	96	91	99	99	100	101	102	109	95
Inventories	102	98	93	97	100	100	104	99	108	104
Farm output per unit of input	87	83	90	93	92	100	94	105	100	106
Output per unit of labor										
Farm[2]	87	81	86	92	89	100	98	111	110	106
Nonfarm[3]	95	95	96	96	97	100	100	101	--	--

-- = Not available. Values for latest year preliminary. 1. Includes miscellaneous items not shown separately. 2. Source: Economic Research Service.

3. Source: Bureau of Labor Statistics. *Information contact: John Jones (202) 694-5614*

Food Supply & Use

Table 39—Per Capita Consumption of Major Food Commodities[1]

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
					Lbs.					
Red meats [2,3,4]	111.6	113.5	111.3	113.6	113.6	111.1	109.1	113.3	115.1	113.5
Beef	62.9	62.5	61.0	63.0	63.6	64.1	62.7	63.6	64.4	64.4
Veal	0.8	0.8	0.8	0.8	0.8	1.0	0.8	0.7	0.6	0.5
Lamb & mutton	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.9	0.8	0.8
Pork	46.8	49.2	48.5	49.0	48.4	45.2	44.8	48.2	49.4	47.7
Poultry [2,3,4]	58.2	60.5	62.0	62.7	62.1	63.1	63.1	63.7	66.8	66.5
Chicken	44.1	46.5	48.2	48.8	48.2	48.8	49.5	49.8	52.9	52.9
Turkey	14.0	14.0	13.9	13.9	13.9	14.3	13.6	13.9	13.8	13.6
Fish and shellfish [3]	14.8	14.6	14.8	15.0	14.8	14.5	14.3	14.5	14.9	15.2
Eggs [4]	30.0	30.1	30.1	30.3	29.9	29.9	30.2	30.8	32.1	32.2
Dairy products										
Cheese (excluding cottage) [2,5]	25.0	25.9	26.1	26.6	26.9	27.3	27.5	27.8	29.0	29.8
American	11.0	11.3	11.3	11.4	11.7	11.8	11.8	11.9	12.6	--
Italian	9.3	9.9	9.8	10.2	10.3	10.6	10.8	11.1	11.5	--
Other cheeses [6]	4.6	4.7	5.0	5.0	5.0	4.9	4.9	4.7	4.9	--
Cottage cheese	3.3	3.1	2.9	2.8	2.7	2.6	2.6	2.7	2.6	2.6
Beverage milks [2]	220.5	217.2	211.8	211.4	207.2	206.8	203.2	200.5	199.2	194.9
Fluid whole milk [7]	87.1	83.5	79.5	78.0	74.4	73.5	71.4	70.2	70.7	69.8
Fluid lower fat milk [8]	109.6	108.8	105.8	104.9	101.3	100.1	98.1	96.6	96.0	95.1
Fluid skim milk	23.8	24.9	26.5	28.5	31.5	33.2	33.7	33.7	32.5	30.0
Fluid cream products [9]	7.7	8.0	8.0	8.0	8.3	8.6	8.9	9.0	9.5	9.9
Yogurt (excluding frozen)	4.2	4.2	4.2	4.6	5.0	4.8	5.1	5.0	4.9	5.4
Ice cream	16.2	16.2	16.0	16.0	15.5	15.6	16.1	16.3	16.7	16.5
Lowfat ice cream [10]	7.4	7.0	6.9	7.5	7.4	7.5	7.8	8.1	7.5	7.5
Frozen yogurt	3.5	3.1	3.5	3.4	3.4	2.5	2.0	2.1	1.9	1.8
All dairy products, milk equivalent, milkfat basis [11]	564.1	563.0	569.8	580.1	576.6	566.6	567.5	572.8	584.9	593.0
Fats and oils--total fat content	64.6	66.5	69.2	67.3	65.4	64.2	63.7	64.3	67.0	74.5
Butter and margarine (product weight)	14.8	15.2	15.6	14.7	13.6	13.3	12.5	12.6	12.6	12.8
Shortening	22.3	22.3	25.0	23.9	22.2	21.9	20.5	20.5	21.1	23.1
Lard and edible tallow (direct use)	1.8	3.5	3.4	4.2	4.3	4.6	4.0	5.1	5.6	5.9
Salad and cooking oils	26.3	27.1	26.6	25.9	26.5	25.7	28.1	27.3	28.8	33.7
Fruits and vegetables [12]	651.9	677.9	690.1	702.3	690.5	698.1	708.0	699.2	705.4	707.7
Fruit	254.2	282.0	280.8	287.7	282.0	279.0	289.6	284.1	289.8	279.4
Fresh fruits	112.5	122.9	123.6	125.0	122.6	126.1	129.5	128.9	129.5	126.8
Canned fruit	19.7	22.8	20.6	20.7	17.3	18.4	20.1	17.0	19.2	17.4
Dried fruit	12.2	10.7	12.5	12.7	12.7	11.1	10.6	12.1	10.2	10.5
Frozen fruit	3.8	3.9	3.7	3.7	4.2	3.9	3.6	4.1	3.7	3.7
Selected fruit juices	105.5	121.1	120.2	125.1	125.0	119.2	125.2	121.6	126.8	120.6
Vegetables	397.7	395.9	409.3	414.6	408.5	419.1	418.4	415.1	415.6	428.3
Fresh	170.8	174.2	180.8	186.8	180.9	186.0	190.2	186.4	191.9	201.7
Canning	114.0	111.7	112.0	111.2	109.4	107.8	106.0	107.1	103.3	104.7
Freezing	72.4	70.5	75.4	77.6	78.9	83.4	81.6	80.5	81.0	79.7
Dehydrated and chips	32.7	31.4	33.4	30.7	31.0	33.9	32.7	32.5	30.6	33.7
Pulses	7.8	8.1	7.7	8.3	8.3	7.9	7.9	8.7	8.8	8.6
Peanuts (shelled)	6.5	6.2	6.0	5.7	5.6	5.6	5.8	5.8	6.0	5.7
Tree nuts (shelled)	2.2	2.2	2.3	2.3	1.9	1.9	2.1	2.2	2.5	2.5
Flour and cereal products [13]	182.3	184.7	189.3	192.0	190.3	196.3	197.3	196.1	196.9	199.9
Wheat flour	136.6	138.1	142.2	143.0	140.1	146.5	146.9	144.9	144.0	146.3
Rice (milled basis)	16.2	16.7	16.6	18.0	18.7	17.6	18.1	18.3	19.5	19.7
Caloric sweeteners [14]	137.5	140.5	143.4	145.9	148.0	148.5	151.3	152.6	155.0	152.4
Coffee (green bean equiv.)	10.3	10.0	9.0	8.1	7.9	8.7	9.1	9.3	9.8	10.3
Cocoa (chocolate liquor equiv.)	4.6	4.5	4.3	3.8	3.6	4.2	4.0	4.3	4.5	4.7

-- = Not available. 1. In pounds, retail weight unless otherwise stated. Consumption normally represents total supply minus exports, nonfood use, and ending stocks. Calendar-year data, except fresh citrus fruits, peanuts, tree nuts, and rice, which are on crop-year basis. 2. Totals may not add due to rounding. 3. Boneless, trimmed weight. Chicken series revised to exclude amount of ready-to-cook chicken going to pet food as well as some water leakage that occurs when chicken is cut up before packaging. 4. Excludes shipments to the U.S. territories. 5. Whole and part-skim milk cheese. Natural equivalent of cheese and cheese products. 6. Includes Swiss, Brick, Muenster, cream, Neufchatel, Blue, Gorgonzola, Edam, and Gouda. 7. Plain and flavored. 8. Plain and flavored, and buttermilk. 9. Heavy cream, light cream, half and half, eggnog, sour cream, and dip. 10. Formerly known as ice milk. 11. Includes condensed and evaporated milk and dry milk products. 12. Farm weight. 13. Includes rye, corn, oats, and barley products. Excludes quantities used in alcoholic beverages, corn sweeteners, and fuel. 14. Dry weight equivalent.

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